

The Mining Journal

RAILWAY AND COMMERCIAL GAZETTE:

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

[The MINING JOURNAL is Registered at the General Post Office as a Newspaper and for Transmission Abroad.]

No. 2475.—VOL. LIII.

LONDON, SATURDAY, JANUARY 27, 1883.

WITH [SUPPLEMENT.] PRICE SIXPENCE
BY POST, 2½d PER ANNUM

MR. JAMES H. CROFTS, STOCK AND SHARE BROKER
AND MINING SHARE DEALER,
No. 1, FINCH LANE, CORNHILL, LONDON, E.C.
ESTABLISHED 1842.

BUSINESS transacted in all descriptions of MINING Stocks and Shares (British and Foreign), Consols, Banks, Bonds (Foreign and Colonial), Railways, Insurance, Assurance, Telegraph, Tramway, Shipping, Canal, Gas, Water, and Dock Shares, and all Miscellaneous Shares.

BUSINESS negotiated in Stocks and Shares not having a general market value.

Every Friday a general and reliable List issued (a copy of which will be forwarded on application), containing closing prices of the week.

MINES INSPECTED.

BANKERS: CITY BANK, LONDON—SOUTH CORNWALL BANK, ST. AUSTELL.

TELEGRAPH. No. 1003.

SPECIAL DEALINGS in the following, or part:—

Almada, 15s. 6d. 50 Potosi, 11s. 9d.
Bolton Uni., £1 14 6 100 Indian Consol., 9s. 9
Bratsberg, 38s. 6d. 75 Indian Glenrock, 14s.
Carnarvon Cop., 7s. 6 25 Indian Phœnix, 13s. 9
Caiaco Bis., 21 7s. 6d. 50 Indian Trevelyan, 8s. 6d.
Chile Gold, 15s. 50 Kapanga, 17s.
Colombian Hyd., 6s. 3 25 Killifretti, 23½.
Consolidated, 5s. 50 La Plata, 17s.
California, 20s. 5d. 20 Langford, 12s.
Devala Cen., 7s. 50 Last Chance, 6s.
Devala Moyer, 14s. 25 Leadhills, 22 16s. 3d.
D'Eresby Mount, 15s. 20 Marke Vale, 15s., o.p.
Devon Consols, £5 139 50 Mona, 9s.
Devon Friend, 6s. 50 Mounts Bay.
Don Pedro, 3s. 25 Morfa Du, 5s.
Drakewalls, 5s. 50 Mysore, 9s.
East Blue Hills, 7s. 9 10 New Caradon, 7s. 6d.
Everhardt, 12s. 100 No. Blue Hills, 2s. 3d.
East Caradon, 11s. 50 New Kitty, 23½.
East Chiverton, 100 New Phœnix, 12s. 6d.
East Lovell, 2s. 50 Old Shepherds, 1s.
E. Roman Grav., 2s. 3 20 North Penitru, 10s.
East Wheal Rose, 100 New W. Caradon, 7s. 6d.
Frontino, 22 12s. 6d. 50 Old Shepherd, 1s.
Goginan, 19s. 100 New West Polbreen, 14s. 6
Gold Coast, 18s. 91. 10 do 15 p.c. Debs., £5 paid, 4½%
Grogwinion, 15s. 6d. 30 Orita.
Gawton, 9s. 25 Polrose, 6s.
Gunnis (Cilt.), £2 2½. 50 Penhalla.
Hoover Hill, 3s. 50 Port Phillip, 3s.
Huntingdon, 9s. 50 Potosi, 11s. 9d.
Hoover Hill, 3s. 50 Wynand Perser., 6s.
SHARES SOLD FOR FORWARD DELIVERY ONE, TWO, OR THREE MONTHS ON DEPOSIT OF TWENTY PER CENT.

* SPECIAL BUSINESS AT CLOSE PRICES in all Market TIN, COPPER, LEAD SHARES.

JAMES H. CROFTS, 1, FINCH LANE, LONDON.

RAILWAYS — SPECIAL BUSINESS.—Fortnightly Accounts opened on receipt of the usual cover.

JAMES H. CROFTS, 1, FINCH LANE, LONDON.

FOREIGN BONDS — SPECIAL BUSINESS.—Fortnightly Accounts opened on receipt of the usual cover.

JAMES H. CROFTS, 1, FINCH LANE, LONDON.

AMERICAN AND CANADIAN STOCKS AND SHARES—SPECIAL BUSINESS.

Fortnightly Accounts opened on receipt of the usual cover.

JAMES H. CROFTS, 1, FINCH LANE, LONDON.

INDIAN GOLD MINES.—SPECIAL BUSINESS in:—

Indian Phoenix. Rhodes Reef.
Indian Kingston. South-East Wynnaid.
Devla Central. Indian Trevelyan.
Indian Consolidated. Tambacherry.
Indian Glenrock. Ooregum.

AT CLOSE MARKET PRICES, free of commission.

* Reliable information given on any of the above. A daily price list issued giving closing quotations. SPECIAL BUSINESS in California, La Plata, Rio

Frontino and Bolivia, Potosi, Chile, Nouveau Monde, Ruby, Richmond.

* SHARES IN THE ABOVE INDIAN OR OTHER GOLD AND SILVER

MINES SOLD FOR FORWARD DELIVERY ONE, TWO, OR THREE

MONTHS ON DEPOSIT OF TWENTY PER CENT.

JAMES H. CROFTS, 1, FINCH LANE, LONDON.

ESTABLISHED 1842.

ELECTRIC LIGHT SHARES — SPECIAL BUSINESS.

Mr. Maxim-Weston. Anglo-American Brush. Pilsen-Joel.
Jablockhoff. Midland Brush. Hammond.
Devon and Cornwall. Metropolitan Brush. Gulcher. Sellon's.

Shares sold for cash, account, or for forward delivery (one, two, or three months) on deposit of 20 per cent.

JAMES H. CROFTS, 1, FINCH LANE, LONDON.

EAST WHEAL ROSE, OLD SHEPHERDS, MOUNTS BAY, TRESAVEAN.

SPECIAL BUSINESS at closest market prices, net.

JAMES H. CROFTS, 1, FINCH LANE, LONDON.

MR. W. H. BUMPUSS, STOCK AND SHARE BROKER, AND MINING SHARE DEALER, 44, THREADNEEDLE STREET, LONDON, E.C.

ESTABLISHED 1867.

BUSINESS transacted in STOCK EXCHANGE SECURITIES and MISCELLANEOUS SHARES of every description.

RAILWAYS, BANKS, FOREIGN AND COLONIAL BONDS, TRAMWAYS, TELEGRAPHS, and all the LEADING INVESTMENTS.

Accounts opened for the Fortnightly Settlement

A List of Investments free on application.

Mr. BUMPUSS has SPECIAL BUSINESS in the undermentioned:—

Almada, 15s. 30 Great Holloway, 25 New Kitty, 4s.

Alankoo, 30s. 25 Goldsmiths (Clifters), 50 Orta, 27s.

Bolton United, 37s. 50 Gavins Copper, 9s.

Bratsberg, 40s. 100 Gold Coast, 23s.

Colombian Hydraulic, 7s. 6d. 100 Hington Down, 9s.

California Gold, 20s. 100 Indian Trevelyan, 8s. 9

Cape Copper, 100 Indian Glenrock, 13s.

Calico Bis., 30s. 100 Indian Consol., 13s.

Chile Gold, 18s. 9d. 100 Indian Phoenix, 14s.

Cook's Kitchen, 20s. 100 Indian Trevelyan, 14s.

Copiapo, £3 3½. 500 I. X. L. Gold, 2s.

Carnarvon Cop., 7s. 6d. 20 Killifretti, 23½.

Carnarvon Cop., 7s. 6d. 50 Kohinoor B., 23s.

Carn. Cambr., 100 Kapanga, 13s.

Devon Friendship, 6s. 6d. 70 Langford, 12s.

Devon Cons., 28s. 150 Last Chance, 5s. 6d.

Devala Moyer, 12s. 9d. 150 La Plata, 17s. 6d.

Devala Central, 20s. 9d. 25 Leadhills, 23½.

Drakewalls, 9s. 100 Michipicoten, 10s.

Don Pedro, 4s. 50 Mounts Bay.

East Wheal Rose, 10s. 6d. 25 Marke Vale, 17s. 6d.

Exchequer Gold, 2s. 16s.

East Caradon, 25s. 100 New Trumpet Cons.

East Blue Hills, 2s. 6d. 150 North Blue Hills, 2s 3

Frontino, 22s. 6d. 100 Nouveau Monde, 7s. 6

50 New West Caradon.

Where prices are not inserted, offers may be made.

SPECIAL BUSINESS, at close prices, in the SHARES of all the principal HOME AND FOREIGN MINES.

* Investors and others will do well just to turn their attention to

shares in SOUND DIVIDEND and PROGRESSIVE MINES, many of which

may be bought at very low prices, and are likely to improve considerably in value within the next few months.

The present is a very favourable opportunity for securing CHEAP SHARES.

Mr. BUMPUSS devotes special attention to these Securities, and is in a position to afford reliable information and advice to intending investors and others.

WILLIAM HENRY BUMPUSS, SWORN BROKER,

OFFICES: 44, THREADNEEDLE STREET, LONDON, E.C.

ESTABLISHED 1867.

BRITISH AND FOREIGN MINING OFFICES.

MESSRS. PETER WATSON AND CO.,
18, AUSTIN FRIARS,
OLD BROAD STREET, LONDON, E.C.
BANKERS: THE ALLIANCE BANK (Limited).

MESSRS. PETER WATSON AND CO.'S
BRITISH AND FOREIGN MONTHLY MINING NEWS
—STOCK AND SHARE INVESTMENT NOTES—MINES,
MINERALS, AND METAL MARKETS—SHARE LIST,
No. 849, VOL. XVII., for JANUARY month, is ready, and will
be sent to customers on application.

Annual Subscription..... 5s. | Single Copy..... 6d.

NOTICE TO SUBSCRIBERS.

In February Monthly Circular some important information will be given regarding the present position and future prospects of our Home Dividend and Progressive Tin, Copper, and Lead Mines, and as to the Buying or Selling Shares in the same.

MESSRS. ALFRED E. COOKE,
DEALER in BRITISH and FOREIGN STOCKS and SHARES
of EVERY DESCRIPTION.
(FROM 76, OLD BROAD STREET)

ESTABLISHED 1853.
9, OLD BROAD STREET, LONDON.

STOCKS AND SHARES FOR SALE.

Mr. ALFRED E. COOKE can SELL the following lots (or any smaller number of shares) to immediate applicants at prices annexed, free of commission:—

Where prices are not inserted, the market price of the day will be taken, or offers may be made:—

30 Almada Silver, 18s.

30 Bratsberg Cop., 33s. 9

30 Callao Bis., 23s.

30 Colombian Hydraulic

30 Gold, 12s.

30 Langford, 12s.

30 Last Chance, 6s.

30 Leadhills, 22 16s. 3d.

30 Marke Vale, 15s., o.p.

30 Monte Bay Consols, 10s.

30 New Kitty Tin, 22 16s.

30 New West Caradon

30 Old Shepherd, 1s.

30 Potosi, 11s. 9d.

30 Rhodes Reef, 12s.

30 Richmond, 18s. 9d.

30 Tresoridge, 12s.

30 Victoria Gold, 20s.

30 W. Crebör Cop., 7s. 6d.

30 West Caradon, 23s.

30 West Crebör, 3s.

30 West Polbreen, 14s.

30 Wheal Jane Tin, 15s.

30 Wheal Crebör, 22 16s.

30 Wheal Polbreen, 14s.

30 Wheal Coates, 12s.

30 Wheal Trevelyan, 15s.

30 Whitehill, 12s.

30 Wilton, 12s.

BIRMINGHAM & HARROWBARROW MINING COMPANY, LIMITED.

IMPORTANT NOTICE.

THE DIRECTORS have decided to EXTEND THE TIME FOR THE RECEIPT OF APPLICATIONS FOR SHARES AT PAR until the 31st inst., in order to insure the subscription of the whole of the nominal capital, which is required to properly work this very rich property, and to make the success of the enterprise certain.

A very large part of the capital has now been applied for, and when the List is complete no time will be lost by the Management in commencing operations on the lodes.

Should any shares remain unallotted after the above date, a premium of 2s. 6d. per share will be charged thereon.

Prospectuses and Application Forms may be had, free by post, from—

Office, 14, Temple-street, Birmingham, January 23, 1883.

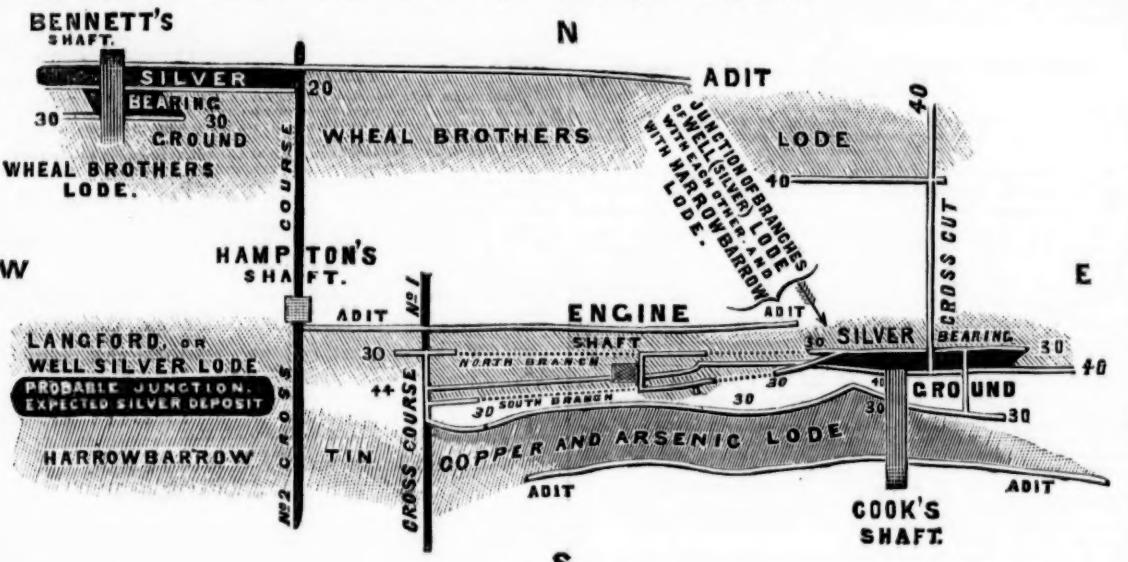
G. J. PARKINSON, Secretary.

AN INTERESTING MINING ENTERPRISE.

A SEARCH WITHIN THE SILVER ZONE OF CORNWALL.

Around the southern slope of Kit Hill, an eminence in East Cornwall, famed for its mineral wealth, there encircles two remarkable lodes within 100 yards of each other, which from the richness of silver ore they contain may well be named together "the silver zone," or girdle. Both lodes dip south, having an underlie of from 2 ft. to 2 ft. 6 in. in 6 ft., and lie in a stratum of clay-slate or killas, not far from the granite. The most northerly of these is known as the Wheal Brothers lode, from the gossan of which is obtained polybasite, or a sulpharseno-antimonite of silver and copper, and also argentic chloride, or horn silver. The southern lode is the Langford, or Well lode, which yields argentic sulphide, pyrargyrite, or dark red (ruby) silver ore, and proustite, or light red silver ore. In both lodes occur occasionally the native, or pure white wire silver. These lodes reach from Callington to Gunnislake, a distance of three miles, west to east; and from Wheal Brothers, Wheal Langford, East Cornwall, Wheal Mexico, and other mines worked on the course of the above lodes, large quantities of silver ore have been raised from time to time. In the centre of this belt, at Harrowbarrow, is situated an extensive sett, embracing a run of more than a mile on the lodes. The ground is further enriched by what is known as the Harrowbarrow copper and arsenical mundic lode, which underlying north effects a junction with the Langford or Well lode at a depth of

about 30 to 40 fms. below the adit. The most remarkable discovery of silver made within recent years was made in 1878 in this sett, which is as yet but partially developed. At this time the Wheal Newton Company were working the mundic lode, and for this purpose had sunk Cook's shaft thereon, when by cross-cutting north from the bottom of the shaft they intersected the Well lode, and that at a point so rich that 10000. worth of silver ore was taken down in one night, and the total sales made from this spot realised nearly 10,000. So great a discovery at the junction of these two lodes at once gave apparent grounds for a theory that rich deposits would be found wherever these two lodes again made a junction; but a simple continuance of the line of junction was found after many attempts at tracing it not to be the sole requirement. Subsequent working has shown that this deposit was mainly due to the fact that at this point two branches of the silver lode had united, and, helped by the favourable inclination of the mundic lode, had there deposited their burden of riches. The discovery of this fact at once throws great light on the working of the Well lode in this mine, and the BIRMINGHAM AND HARROWBARROW MINING COMPANY (Limited), who have just purchased the sett, now beg to call the attention of the mining world and the public to the following details, which they believe constitute a sufficient claim for support in their attempt to efficiently work this property.



It will be seen from the above plan that the two branches of the Langford or Well lode, which are united at the foot of Cook's shaft, can be traced diverging westward along the 30 levels as far as the first cross-course, where they are 7½ fathoms apart. Obeying the uniform law governing lodes, these branches will again be found to converge and eventually meet to form one lode in the western ground as they have in the eastern. This junction will probably take place beyond the second cross-course, which is noted for its enriching properties. The two cross-courses underlie differently, the first to the east, and the second to the west; hence they may be held to mark the climax reached in the bifurcation of the silver branches, which, receding east and west therefrom tend to unite and form one fissure; the splitting of the lode being doubtless due to its disruption by the cross-courses. It is not, therefore, unreasonable to expect that with a resurgence of circumstances in the west, such as were found in the east, near Cook's shaft, a like result will be discovered. Several collateral reasons also support the probability of a great deposit of silver being found at the point indicated in the above illustration, the chief being the richness of the parallel lode (Wheal Brothers) at Bennett's shaft, which is just opposite the position in question, and which thus serves as one of the best of indexes. The lode in the western end of the 30 level, on the north branch carries a very strong leader of carbonate of iron (the usual matrix of silver), and at the first cross-course a bunch of silver was cut. There can be no doubt that a very rich result will follow the further driving of this level, already so far advanced towards this interesting ground. The Wheal Brothers lode has proved very rich in silver in the ground worked about Bennett's shaft. At the present moment silver is in sight at four or five places, and when an engine of sufficient power has been erected there to draw away the refuse which at present blocks the levels, a continuous yield may be relied upon. From the silver-bearing ground near Cook's shaft a cross-cut has been driven north into the Wheal Brothers lode, which is thus intersected about 70 fathoms from surface. On opening on the lode to the west it was found to be from 2½ to 4 ft. in width, with a leader 4 to 10 in. wide, composed of quartz, pebble, and prian, interspersed with 5 to 6 per cent. copper, and occasionally silver from 14 to 16 ozs. to the ton. It is most probable that the lode, as at other points along its course, will prove richer for silver in the upper part, and that in depth it will prove valuable for copper. When opened at surface just over the cross-cut the lode was found to be 15 in. wide, composed of quartz and gossan, spotted with copper and mundic and traces of silver-lead, so that the mineralised character of the lode throughout has been ascertained. The present 40 level shows signs of improvement as it is being driven towards the cross-course, and opens up at a depth a reach of the lode which has been hitherto unexplored.

As to the Harrowbarrow mundic lode, this has been so well laid open by levels, which traverse the whole of the ground deeply shaded on the plan, that it is at present capable of yielding 200 tons of arsenical and coppery mundic of the finest quality per month. The working of this lode will pay its own costs, as well as those of draining the mine, for which purpose, as well as for all hauling requirements, a powerful 30-in. cylinder double-acting steam-engine is on the mine in an efficient condition.

Besides the business of carrying on explorations underground, a large quantity of low-class silver ore, containing about 12 ozs. to the ton, is at present on surface awaiting concentration by machinery, which it is proposed to erect. This work, hitherto slowly but profitably carried on by hand, will prove a very satisfactory source of income.

THE BIRMINGHAM AND HARROWBARROW MINING COMPANY (LIMITED) now enters upon an undertaking which has been developed at considerable outlay by previous owners. The registered capital is £12,500, in 25,000 shares of 10s. each, payable 2s. 6d. on allotment, and the balance by calls of not more than 2s. 6d. per share, at intervals of not less than three months. The first directors are—G. S. Dowling, 363, Lodge-road, Birmingham; S. Jenkins, Unity Works, Vittoria-street, Birmingham; J. F. W. Penny, 115, Coventry road, Birmingham; E. Armstrong Telfer, Ebberley Lawn, Barnstaple; Thomas Westlake, Calstock, Cornwall; Abraham Wilks, the Green, Bloxwich.

There has been no promotion money paid, and the purchase money is to be accepted partly in shares, thus giving the shareholders in the selling company an interest in the future prosperity of the mine; they thus richly deserve for their indefatigable exertions to retain a permanent hold of the property, but which, owing to the smallness of their capital they were obliged, as a company, to relinquish. This property consists of a plot of freehold land, with mundic lode running the entire length of same, being admirably suited for works for the treatment of minerals, and having already offices, assay house, &c., erected thereon; also two leases conveying extensive mining rights along the silver lodes, and the very valuable machinery and equipments of a mine in full working order. The only contract entered into is one dated Dec. 15, 1882, between the liquidators of the Wheal Fortune Mining Company (Limited), and G. S. Dowling, as agent on behalf of this company; being an agreement to purchase the whole of the property for £4700, £2200 payable in cash, and £2500 in 5000 shares fully-paid in this company.

The contract lies for inspection at the registered offices of the company, 14, Temple-street, Birmingham, where plans and specimens may also be seen.

Prospectuses and further information may be obtained from the secretary, Mr. G. J. PARKINSON, at the company's office.

Meetings of Public Companies.

SANTA BARBARA GOLD MINING COMPANY.

A special general meeting of shareholders was held at the office of the company, Liverpool, on Thursday, the 18th inst.,

Mr. E. S. HOLLAND in the chair.

The SECRETARY having read the notice convening the meeting,

The CHAIRMAN said—The directors have found it necessary to call you together for the purpose of raising further funds for the completion of the new watercourse and hauling machinery in course of

construction at the company's mine. You will recollect that to-

wards the close of the year 1880 the company decided to proceed

with the construction of a new watercourse of about six miles in

length, for the purpose of obtaining the necessary water-power to

work new and powerful hauling and pumping machinery, which it

was anticipated would materially increase the quantity of ore that

could be raised from the mine, and likewise enable the workings to

be carried on far more economically than before, thus adding largely to our profits. It was also decided to erect such new hauling and

pumping machinery. To provide for this new water-power and ma-

chinery, as well as other important new works, estimated to cost in

all about 20,000., as stated in a report made to the directors at the

time by Mr. Thomas Tregellas, who is a member of the board, a new

issue of share capital was created, but the amount received from the

emission of a portion of this new capital, the whole of which was

not taken up, being at the issue price of 17. per share, or 100 per

cent. premium, some 12,000. only, has been found insufficient to

complete the new works now in hand. We propose, therefore, to

raise the requisite amount for the balance of the cost of this new

water-course and machinery, estimated at about 4000., by the issue

of debenture mortgage bonds, bearing 10 per cent. interest, payable

half-yearly—of the denomination of 50. each—to a total extent of

10,000. sterling, for a term of five years, from Jan. 1, the balance re-

ceivable from which bonds will, after the cost of the before-named

new works has been defrayed, be applicable towards the erection of

further stamping-power as required, for working capital, and for any

other purposes anticipated to improve the company's property. The

new watercourse, which is well advanced to completion, together with

the new hauling and pumping machinery and works in connection

therewith, have already cost the company from their commencement

up to Nov. 30 last, the sum of 11,594. 9s. 11d., in addition to which

786. 0s. 1d. has been expended up to the same date in respect of

new house and smithy accommodation; making a total of 12,380. 10s.

already spent on these new works in respect of which the new share

capital was last issued. It is anticipated that the new machinery

can be completed in a few months time from now, and it is esti-

mated that when all the new works are in full operation and the

mine fully opened out, with the provision of additional stamping

power, as recommended in Mr. Tregellas's report, the mine will be

capable of returning a profit of some 30,000. per annum, provided

the average yield of the ore reaches 4 oits. per ton. As regards the

prospect of the ore attaining this standard of 4 oits.—or say, about

4 oz. per ton—I should state that although the produce for the year

1881 amounted to only a little over 3 oits. per ton, yet that the aver-

age yield for the two preceding years was close upon 4 oits., and it

seems only fair to assume that when the output of the mine is in-

creased and the large body of good ore available, which we have

every reason to suppose will be met with in depth, our mineral will

give very satisfactory results. The present stamping power at the

mine is capable of dealing with about 16,000 tons of stone annually,

the treatment of which quantity, taking into account the reduced

cost of raising the same consequent on the use of the new machinery,

should, it is calculated, yield a profit of close upon 10,000. per

annum. It would thus appear that an ample margin is shown

for the security of the proposed debentures, which will further

be protected by a deed of trust conveying the extensive freehold

property of the company in Brazil to the trustees named in the

trust deed now before you for approval, which can be read through at

length should any shareholder desire this to be done. You may pos-

sibly be interested in being reminded that the company possesses in

the province of Minas Geraes, Brazil, a freehold estate on which the

mine is situated of several square miles in extent, with houses and

other buildings thereon, including five stamping mills and other prop-

erty at Pari, near the city of Santa Barbara, all of which buildings,

machinery, tramroads, and watercourses constructed to give water-

power for working with, cannot, it is estimated, have cost in their

construction during years gone by less than the sum of 40,000. sterl-

ing. The mine itself, which is favourably known for the steady con-

tinuance of its lode or vein of auriferous pyrites, both in length and

depth, has been worked on in one part to a depth of close upon

60 fms. (120 yards) below the deep adit level, the lode being at this

depth more productive than it was at a shallower horizon, and it has

been worked on upwards of 100 fms. (200 yards) in length. It has re-

turned, since its systematic working by the present management

from Jan. 1, 1875, to the end of the year 1881, a period of seven

years, gold to the value of 133,583. 15s. 9d., notwithstanding the

disadvantage of its being worked without proper hauling ma-

chinery. The profit realised has been 29,271. 19s. 1d., out of which a

reserve fund of 3000. has been set aside, a balance of 489. carried

forward to the next account, and the remainder distributed in di-

dividends on the shares. The company would doubtless have been

able to supply the amount needed for the completion of the new water-course and

machinery by the issue of the remaining share capital, had it not been

an exceptionally unfortunate one in its history. You will remember that the principal workings of the mine were to the south of the main or No. 1 shaft, and that in the month of May last, owing, it has been stated, chiefly to the

heavy rains during the wet season, a large landslide of the mountain above the

main shaft caused the destruction of the latter and the filling up of the

as well as the further resolution proposed by the CHAIRMAN, and seconded by Mr. A. PIGGOT FLETCHER—2.—That the repayment of the money payable according to the tenor of the debentures, be secured by a trust deed in the name of the draft submitted to this meeting, and identified by the signature of the secretary of the company, expressed to be made between the company of the one part, and Walter Holland, of the city of Liverpool, shipowner, and James Wilcox Alcock, of the said city, gentleman, of the other part, and that the directors of the company, be and they are hereby authorised to execute under the seal of the company, a deed in the terms of the said draft.

In moving a vote of thanks to the Chairman, Mr. A. W. CHALMERS suggested that in view of the comparatively small number of shareholders present the remarks of the Chairman should be circulated among the shareholders, and it was agreed this should be done.—The proceedings then closed.

THE DENVER GOLD COMPANY.

The statutory meeting of shareholders was held at St. Michael's Hall, Lombard-street, on Monday,

Mr. FRANK POWELL in the chair.

Mr. J. J. TRURAN (the secretary) read the notice calling the meeting.

The CHAIRMAN said: Gentlemen, the meeting we hold to-day is, as most of you are aware, known as the statutory or four monthly meeting, and is made compulsory on all new companies under the Companies Act; but as no statement of accounts can be laid before shareholders at this meeting, the business is necessarily limited to receiving such information as the directors may have it in their power to give with respect to the progress made.

The board thought this would be a fitting opportunity to give the Denver shareholders some fuller information with respect to the property they possess than they have hitherto been able to do; and, therefore, on Dec. 7 last they instructed Mr. Truran to write to Mr. Craven, the mining engineer, to send us a full statement of the position of the mine, with plans and sections, and also a list of our machinery and the state in which it was. That report, I regret to say, has not arrived, although on Jan. 3 we received a telegram, "Plan, report sent to-day," and we have since received a letter stating it had been forwarded, and would be in London about the 17th or 18th of the month. This is now the 22nd, and, as I stated, it has not arrived. Under these circumstances we can only fall back upon the latest letters from the mine, an extract from which I propose presently to read to you. With respect to this report, gentlemen, the board, immediately on its arrival, will have it printed and circulated amongst the shareholders, and I have not the slightest doubt that you will find it a very interesting document. I am reminded that the report was stated to have been sent by parcels express instead of the ordinary way. Before reading you the extract to which I refer, I will give you our financial position. It will be in your recollection that at the time we brought forward the scheme of reconstruction, after we had failed to induce our shareholders or others to subscribe for debenture bonds, I ventured to prophesy that this scheme would be a success, and I am happy to say it was so. The Quartz Hill shareholders having submitted to a very large reduction in the nominal capital of the company. It at once became apparent to them that it was to their own best interests to exercise their option and apply for the new shares. This they have done to the extent of 50,911 shares. Upon these shares 2s. 6d. per share have up to the present time been called up, and we have received 3,694. 4s. 6d., leaving in arrear the comparatively small sum of 669. 13s., and we have had paid us, in advance of calls not yet made, 57. 10s. We have remitted 3,200/- for the purposes of the mine, and the other small payments are as follows:—Printing and stationery, 30. 14s. 6d.; secretary's salary, 35. 7s. 6d.; office expenses, 217. 15s. 7d.; law charges, 291. 13s. 4d.; paid into court with respect to an action, 170. ; leaving us 2,268/- at the bankers. In addition our latest advice state that our agent over there had 600/-, and there is 300/- in transit which has not been accounted for, so to the 2,268/- there is, as far as we know, at present 1,400/- to be added, so that we may take our position probably to be this—that we have an amount in hand sufficient to pay off the 3,000/- of debenture debt owing by the old company without encroaching upon the 2s. 6d. per share, still to be called up upon the shares at present issued. (Hear, hear.)

You would naturally like to know what has been done at the mine in return for the outlay. At the time this company took over the property that was down to the 1275, since that date it has been sunk to the 1350, and levels driven east and west. The shaft has really been sunk further than the 1350, and is almost down to another level, but the exact depth I do not know. The different levels have been driven east and west altogether a distance of 671 ft., addition to sinking the shaft; the result has been to open out a considerable amount of ore ground, which our agent tells us in his letter will provide our mill for many months to come. I will read the letter, after which I will answer any questions as far as we consider it prudent and right to do so. I think, gentlemen, you will agree with me that this is a very satisfactory letter (hear, hear), and it clearly foreshadows the nature of Mr. Craven's report. I do not know that I can add anything more to what I have said, but I shall be happy to answer any questions. The full plans and sections which will accompany the report will be at the office to be seen by any shareholders who are sufficiently interested to come and see them.

A SHAREHOLDER from Liverpool suggested that it would be acceptable to the shareholders if a small lithographic copy of the plan and section were sent out with the report.

The CHAIRMAN said the directors had considered the matter at the suggestion of Dr. Dunhill, and they simply hesitated because of the expense. However, this would not be large, and if the shareholders wished it small lithographic plan should be sent out with the report.

In reply to a question, the CHAIRMAN said it was a comparatively dry mine, and they would have no trouble with the water.

A SHAREHOLDER said that some time ago, at one of the Quartz Hill meetings, it was mentioned that the adjoining mine was called the California; he asked whether that was the mine whose shares had recently been quoted at 1½; and if so he thought they might soon hope to see this company's shares as valuable. He believed Mr. Fagan did not consider that property so good as this at the time, and was of opinion that the California lode was likely to fall into this company's property at a deeper level.

A SHAREHOLDER proposed a vote of thanks to the Chairman and directors; the report they had heard was very satisfactory, and he hoped when they next met they would hear of dividends.—The resolution was put and carried.

The CHAIRMAN acknowledged the compliment, and said that in Mr. Hanson and Mr. Craven they had two men in whose reports they could implicitly rely, and whose statements were borne out by facts.

A desultory conversation ensued with regard to the issue of further shares and the payment of debentures, in the course of which a shareholder expressed the view that a further issue of shares would be advisable in order to strengthen the hands of the board. Speaking as a Liverpool shareholder, he said that the feeling in Liverpool was one of great satisfaction with the board, and great confidence in the future of the mine.

The CHAIRMAN: It is a matter of great satisfaction that the development of the mine has proceeded so well during the past six months. No one present at the last meeting could have anticipated that we should have so good a statement to put before you to-day. Owing to the gold met with in the process of development, we have not expended more than a quarter of the capital which was raised. We have many months of milling a-head, which we may assume will give us a good working profit, and if the taking away of the ground does not result in a good profit, it would be available for dividend, owing to our not being hampered for want of working capital.—The meeting then broke up.

GOLD COAST MINING COMPANY.

The ordinary general meeting of shareholders was held at the Guildhall Tavern, Gresham-street, on Thursday,

Capt. G. M. F. MOLESWORTH, R.N., in the chair.

Mr. JAMES KER (the secretary) read the notice convening the meeting. The report and accounts were taken as read.

The CHAIRMAN said it was with great satisfaction that the directors met the shareholders on this occasion to give an account of their stewardship.

He had received several questions asked in writing by shareholders, who said they did not like to make observations at the meeting which might do any harm, but he trusted that the shareholders would express themselves most freely on all points, for the directors had nothing whatever they wished to conceal from the shareholders.

In the first place, he might mention that they had received a second consignment of gold from the mines, which he had the satisfaction of showing them—a bar of gold weighing 38 ozs. of pure gold, of the value of 4L. 3s. 6d. per ounce. Some of the shareholders have asked whether it was to be expected that these remittances would be continuous. There was every reason to expect that the returns would be continuous. The directors had received a telegram, stating that a second bar of gold was on its way; and, considering the difficulties which had been encountered, he thought these results might be considered extremely satisfactory. (Hear, hear.) The next question asked was as to the calls in arrear, amounting to 25,561. 15s. at the date of closing the accounts. It must be remembered that the call was only made on Oct. 20, and between that and the closing of the accounts on Oct. 31 there was not time for the calls to come in. Since then the calls had been very tolerably paid up; but at the present time a certain amount was in arrear, and notice had been given to the shareholders in arrear that if the calls were not paid their shares would be forfeited. With regard to the amount of 100/- standing in the accounts to the debit of the proprietor of the mines, this discrepancy had probably arisen owing to the change of officers, and owing to the ill-health of the manager and another officer. The directors had sent out for explanations, and no doubt the whole matter would be put right.

With regard to the workings since the last meeting, they had driven adits, sunk shafts, and stope the ore, and they had got a very large amount of ore upon the bank now ready for crushing. The delays which had occurred in the mining operations, or rather in the machinery, had been, as the report stated, annoying; but they had not been anything like the delays which had occurred at other mines. Mr. Burton, the engineer, who went out to put up the engine, who met the directors at the works before leaving, unfortunately died of brain fever on the Gold Coast. Those who had had experience in getting managers and engineers would know how difficult it was to fill such a vacancy. By this unfortunate circumstance they lost five months at least in the erection of the machinery. The Chairman, having referred to the great difficulty in connection with the landing of the machinery at Axim, said the shareholders must not be disheartened because these little delays had taken place. They were in a more forward state than any mining company on the Coast, although they began some time after most of them—(hear, hear)—and with regard to the accounts he challenged a comparison with the accounts of any other similar company in the City of London, where the results were so good, and the expenditure so low as in this company. (Hear, hear.) The directors had taken great pains not to send too much machinery or money to the mines, and he thought when they pointed to the fact that they had 8000/- still unexpended, and that gold was now being transmitted to them with the probability of fortnightly or at least monthly remittances, he thought it would be admitted that the company was in a very satisfactory position. The arrears of calls now amounted to about 800/- At the present time their expenditure was at the rate of about 8000/- per year, but when they could crush 100 tons per day their

maximum expenditure would be about 20,000/- per year, including the continuous opening of the mine and every other expense. The engine had been started since November, but it would be easily understood that there were generally alterations required in such machinery and fittings. It should be borne in mind that in the early crushings a large amount of gold adheres to the plates, and is not obtained in the early clearings up. A good deal of the fine gold was also retained in the mercury temporarily, as well as in the tailings; and both these circumstances had been taken into account in estimating the probable yield. Taking these matters into consideration, it was estimated that the yield up to the present time would be about 4/- per ton of ore crushed. The new boiler would shortly be in full working order, and they would then be able to crush 40 tons of ore a day; but supposing they only crushed 35 tons a day for five days in the week, and that it yielded 4/- per ton, they would have a return of 2000/- a month, or about 24,000/- a year. When the other machinery was erected they would be able to crush 100 tons a day, which on the same basis would give them 100,000/- a year. By hand crushing the yield had been equal to 8/- per ton of ore crushed.

A SHAREHOLDER asked how many tons of ore had been crushed?—The CHAIRMAN said about 100 tons, but the bar of gold on the table was only the produce of a part of it. The ore crushed was taken from round about the stampa. With regard to the paragraph stating that the directors had been obliged to call up more capital than they had anticipated, the report sufficiently explained the matter, as was also the next paragraph with regard to the projected sale of a portion of the property. It was still proposed to bring out the company referred to, and if that were done it would give this company some additional funds to purchase additional machinery. In any case, should additional machinery be required, he believed the shareholders would not grudge providing the necessary funds if it could be shown that by its employment the profits would be increased.

A SHAREHOLDER asked when the bar of gold was sent home?—The CHAIRMAN said it arrived about a week ago, and another bar was on its way here.

The SHAREHOLDER added that they were promised continuous supplies of gold. The CHAIRMAN thought once a fortnight might be considered pretty continuous. (Hear, hear.) A line of railway had been surveyed from the port of Axim to the mines at a cost of 2500/- (not at the expense of this company), and this line, when completed, would add to the value of their property by increasing the facilities of transit to and from it. He understood that the French Company working in their neighbourhood, though it had not sent home the gold that this company had done, was in such favour that their shares were at 100 per cent. premium in France. That company had spent double the capital that this company had done, and had had to apply to its shareholders for assistance over and over again. This being the case, he thought the shares of this company should command a very good premium. With regard to the raising of additional capital, that matter must be discussed at the extraordinary meeting. Everything at the mines was going on in a most satisfactory way, and they were perfectly satisfied with the success of the company. Mr. Gowans, their manager, proposed to come to England shortly, and he would then be able to select the best machinery for crushing and treating the gold. The Chairman, in conclusion, moved the adoption of the report and accounts.

Mr. ESCOTT seconded the motion. In the course of the discussion which ensued several questions were asked by Mr. Montefiore, Mr. Bentley, Mr. Unwin, Mr. Snow, and other shareholders. They were chiefly with regard to the details of the accounts.

The CHAIRMAN, in reply, said as the company had not been making a profit it had been thought desirable that the accounts should be made up from the starting of the company, and the accounts as presented embraced 2½ years. The second bar of gold weighed 33 ozs., and it was now on its way home. The expenses of the company were exceedingly moderate in every respect. The preliminary expenses were in the first statement of accounts, and were adopted last year. They were arranged between the vendors and the company. With regard to the arrears of call, they now amounted to 800/-, and notices of forfeiture had been given to the shareholders in arrear. Of the last issue of shares at 5s. prem. by far the larger portion were taken by the directors. A call had not been made recently because it had not been required; but he thought it would be desirable that 5s. should now be called up on the new shares. He (the Chairman) also bore testimony to the ability and enterprising spirit of their manager, Mr. Gowans.

The report and accounts were then unanimously adopted. The retiring auditors, Messrs. J. and F. Ford, were re-elected.

An extraordinary general meeting was then held for the purpose of considering the advisability of adopting the following special resolutions:—

"That the agreement entered into by the directors for the purchase, at the price of 1000/- in cash, and 9000/- in fully paid-up shares of 1/- each in the company, of 2000 yards linear of land, commencing at the northern end of Abbontuyakoon, the mining concession belonging to and now being worked by this company, such 2000 yards being an extension north-east thereof, be, and the same is, hereby approved, and that the directors be, and they are hereby requested to carry the same into effect, with such modifications and alterations as they may think fit."

"That the capital of the company be increased to 80,000/-, by the issue of 15,000 shares of 1/- each" (or such other sum as the shareholders may think fit).

After some discussion the consideration of these resolutions was adjourned for a fortnight. The meeting closed with a vote of thanks to the Chairman.

CARNARVONSHIRE GREAT CONSOLS LEAD MINING COMPANY.

The adjourned ordinary general meeting of shareholders was held at the Guildhall Tavern, on Monday,

Mr. VANS AGNEW in the chair.

Mr. H. MANSELL (the secretary) read the notice convening the meeting, and the report of the directors was taken as read.

The CHAIRMAN said: The balance-sheet shows that we received in cash the difference between 33,708/- and 30,208/-, that is we received 1901. 5s. 1d., making our cash receipts 1041. 4s. 10d. We have spent of that 9819. 5s. 1d. The cash paid for claims and expenses of winding-up the Llanrwst Company was 6179/-, but I must mention that 2000/- of that was not paid in cash, that represents the mortgage which we took over. Then we spent in new plant, fittings, and machinery 206. 0s. 5d., and the mining cost, which is development as well as raising ore, was 5159. 5s., and the office expenses were 274. 15s. 6d., making a total of 9819. 5s. 1d., and that gives the cash balance as 501. 19s. 9d. Our assets, therefore, at the end of October were 581. 19s. 9d., and the unpaid calls 1593. 10s. 3d., total assets at that date 2165. 10s. I have a financial statement here bringing the matter up to date, which shows a cash balance of 556. 1. I will now formally move the adoption of the report and balance-sheet.—Mr. GREGORY seconded the motion, which was put and carried unanimously.

A SHAREHOLDER: We want to have some details of that unanimous cost: 5000/- is a great deal of money. There is generally a profit and loss account, so that the shareholders may know the particulars.

The CHAIRMAN: Well, gentlemen, I was going to proceed to give some further information to show the state of the finances at the present moment. The total assets on this day are 1443/-.

Mr. ENDEAN: Are there any liabilities?—The CHAIRMAN: There can be no liabilities because we have paid-up for everything.—Mr. ENDEAN: That is what I was anxious for you to state.

The CHAIRMAN: With reference to the expenses of liquidation, they were heavy, they always are. We had the office at Messrs. Panels, but we found that was a very expensive arrangement, and had to take the office away and do it cheaper at home. Then the late directors insisted on having their fees, and although we grudged them exceedingly we were obliged to pay, as they, in fact, took legal proceedings against us.

A SHAREHOLDER: Were those fees ever voted by the shareholders?—The CHAIRMAN: It was a debt against the old company, and as we were responsible for the old company's debts we were forced to pay.

Mr. ENDEAN: Under the Articles of Association they were entitled to the fees, and they brought actions for them. We defended the actions as long as we could, but had only to pay the lawyer's account.

The CHAIRMAN: Well, gentlemen, when we met last we had very lively anticipations, and last year we expected very great things indeed from this mine, and we believed that the mine would produce in a very short time 100 tons a month, but in that we have been disappointed as the yield has been only 30 tons.

We have, however, realised over 2000/- worth of lead, and have done a great deal of work, and the costs are not now more than 145/- per month, and if you divide that into 1430/- you will find there is money enough to last for about 10 months. The question is what course should we pursue. There are several courses open to us, one is to raise more money, and another is if we could get favourable terms from the proprietor of the mine to cease operations until lead rises in price. I leave it to you gentlemen to decide which is the best course to pursue. I am taking the financial point of view of the state of things. I am not a miner, and I know nothing about it. I am told the mine is a very valuable one, but I am looking to the funds.

Mr. ENDEAN: Have you any unissued capital?—The CHAIRMAN: Plenty.

Mr. ENDEAN: How much?—The CHAIRMAN: 34,000/- nominal. I can only say for myself I am one of the very largest shareholders. I have paid 1130/- for my shares.—Mr. GREGORY: I have no doubt the Chairman believes that in his view of our position he is perfectly right, but on the other hand, I beg to differ with him. I have some little knowledge of mining, and know the position.

Twelve months ago we were told certain work had to be done in order to develop the mine at a greater depth to open up the richer which existed, and which, I believe still exist. We have spent the greater proportion of money in doing this dead work and development, materials had to be purchased, and so forth; there were repairs to the machinery and many unforeseen circumstances have arisen, and with regard to the 6000/- which has been spent, you must bear in mind that about 4000/- has been actually spent in the development of the mine, in slaking the Endean's shaft 10 fms., and the diagonal shaft 9 fms., and driving various levels. This work could not be accomplished without a great expenditure, therefore, having done that work we have not yet arrived at the point where we hope to derive the advantages from the deeper workings. In the end of the 24 fathoms level west some of the finest stones I have seen from the mine have just been broken, and they bear every indication of being in proximity to a large body of lead. We are getting out of the sulphur ground where the character of the lead is totally different. It has, in my opinion, every indication of bearing a certain proportion of silver which we have never yet had in the mine. I may tell you I am largely interested in this mine, and for my own satisfaction I sent down a gentleman whom I considered to be one of the first mining engineers that we have in this country, whose opinion and report I am perfectly satisfied will carry weight with anyone. I have his report in my pocket; it is a long one, perhaps I ought not to trouble you with the whole details, but I shall be happy to have it printed and circulated among the shareholders. This report I consider to be very satisfactory indeed. It bears out my opinion as to the value of the mine, and the prospects on deeper development. I hope we shall soon be in a position to increase our returns from 30 tons to 100 tons or more. During the coming year we shall have the advantage of all the dead work we have done. I believe we have not seen the richest part of this mine, and if we were to shut up to-morrow

someone else would come in and reap the benefit. I do not feel disposed to sacrifice my interest when perhaps an outlay of a few thousands will enable us to realise good profits from all the outlay we have had now to the present time; therefore, what I propose is this: we have 17,000 unissued shares, and we have a large body of shareholders. I propose that a certain proportion of these shares be offered to the shareholders at 1/- a share. I am heavily interested, but still I have not the slightest hesitation myself in subscribing for 500 more of the company's shares at 1/-, if the other shareholders will take amongst them the balance of 3000. Therefore, I propose that 3000 of the company's shares be offered to the shareholders at 1/- per share. (Hear, hear.)—Mr. ENDEAN seconded the motion, which was carried, and the retiring auditor having been re-elected a vote of thanks to the Chairman concluded the proceedings.

THE FRONGOCH MINE.

sponded to better. The last call was 5s., the arrears to-day are 710s. The previous call was 2s. 6d., the arrears last meeting were 592s., and the call before that was 3s. 6d., while at the meeting before the last the arrears stood at 557s. It would be seen by these comparisons that the calls had come in better in proportion since the last meeting than during the two previous periods. Of the 557s. 9s. arrears on shares forfeited, 71s. is owned by one party not residing in England.

Mr. DOW asked how the compensation arose?—The CHAIRMAN replied that the question of compensation had been pending for a long time, and the matter was by request of the late master to be arranged by the lords' agent. In future the charge would not exceed about 30s. a year. In reply to a further question, the manager said there were stores on hand sufficient to last for some time. The Chairman said since the last account they had paid the merchants about 200s.

Mr. DAVIDSON said he supposed they were not bound to sell the tin at the very low price now ruling.—The CHAIRMAN replied that he would be very sorry to sell it at present prices. It will be seen the last two parcels—sold to two smelting firms—realised 60s. per ton, that last sold being on Oct. 5 cleared the stock of tin on hand. We were fortunate in selling, for so soon after as Oct. 16 the standard fell 2s. per ton. On Oct. 18 and 25, Nov. 1 and 6 a further fall of 2s. per ton at each of those dates; on Dec. 2 a further fall of 3s. per ton; Dec. 13 another 2s. drop, and on Dec. 30 a final 2s. Thus, from Oct. 16 to Dec. 30 inclusive, the fall has been 17s. On the 31st inst. a rise of 2s. took place, and I think the chances are in favour of a rise against the fall; therefore, with the approval of the meeting, we will not sell our tin at present.

After a little further discussion as to not selling the tin for the present, the CHAIRMAN said that in consequence of retaining the tin they would have to ask for further assistance from their bankers, and before doing so he would ask the meeting to pass a resolution authorising a further over draft; it was right and reasonable that if the bankers afforded us such accommodation they should be secured by a resolution being entered in the cost-book.—Resolution passed accordingly.

The CHAIRMAN moved the adoption of the financial statement.—Mr. DAVIDSON seconded the motion, which was unanimously adopted.

The CHAIRMAN then read the following report from the agent:

Capt. James Reed, in his report dated Jan. 20, says: Great Flat Lode: The stope in the bottom of the 70, about 30 fms. west of Tremayne shaft, is worked for 5 fms. in length, and down about 4 fms. below the level, where the lode is strong and masterly, containing a great deal of mundic, and worth for the 12s. per cubic fathom. Stopping in the back of the level, by 10 men at 5s. 10s. per cubic fathom, and worth for tin from 15s. to 20s. per cubic fathom; the value of this stope is ascertained from the stuff drawn to surface sampled and assayed. I look upon the lode at the back of the 70 as a very important point, as it is evident it is a continuation of the rich course of tin worked upon from the 30 to the 60, with an easterly dip not shown upon the mine plan.—Ready Money Lode: In the 15 driving both east and west from Gilbert's shaft, the lode is about 4 ft. wide, and worth for tin from 7s. to 8s. per fathom. In the stopes in the back of this level the lode is about 3 ft. wide, worth 10s. per fathom, a well defined lode, with every indication of producing large quantities of tin. There are 11 tribute pitches being worked throughout the mine by 52 men, at tributes varying from 10s. to 13s. 4d. in 14. Tributaries to be paid a standard of 5s. per ton for black tin. There are 40 men engaged underground on turnwork, including shaftmen, pitmen, skip-diggers, timbermen, wheelers, &c.; total underground 92 men. At surface there are employed 107 persons, making a total of 199 persons in all. The stock of the Cornish boiler, with everything, is nearly complete, and the fire will be lit in the boiler this evening, so as to dry the flues, &c., during the coming stem time. On Monday or Tuesday next we will get up steam and start to drive the pulverisers. From these and the water-stamps satisfactory results may be expected. We consider the prospects of the mine now, very cheering, and fully expect to return 20 tons of tin per month from now. Quantity of tin weighed in tin-houses up to this date, and ready for sale is 52 tons 17 cwt.

Mr. DOW asked why the cross-cut north had been stopped.—Capt. REED said that had been done so as to put the men to the back of the 70, where there was an enormous quantity of ground, which was worth at the present time from 15s. to 20s. per fathom. The lode was from 3 to 8 ft. wide, and it seemed probable that they had ground enough ahead there to last them for several years.

A conversation then took place regarding the Cornish boiler to the engine attached to the pulverisers.

The CHAIRMAN explained that a vertical boiler, supplied through the engineer to the mine by Messrs. Tangney and Co., so recently as last March, and steam got up the following month, had in a very short time proved a complete failure; it was not fit for our purpose, as acknowledged by the engineer in a letter dated Jan. 13, and read thus:—"When I said in my letter of the 4th I think that our late Mr. Hocking made a mistake in ordering a tubular boiler, he was not mistaken in the class of boiler, but he was most certainly deceived with the water, which was thought so pure, which the boiler was to be fed with. If the water was pure the boiler no doubt would have answered our purpose." It is to be regretted that a Cornish boiler was not purchased in the first instance, for I find the tubes in the tubular boiler are only about $\frac{1}{2}$ in. thick, therefore impure water would quickly affect them. To use our own engineer's words, "it is clear that impure water does not take long to cut through them," whereas our Cornish boilers are made of plates of $\frac{1}{2}$ to $\frac{3}{4}$ in. thick, in order to be able as far as possible to contend against mineral water.

A SHAREHOLDER expressed his opinion that a consulting engineer ought to have made himself thoroughly well acquainted with the character of the water before.—The CHAIRMAN: Had he done so we should not only have been saved the cost of the boiler, with its attendant charges, I suppose—90s. to 100s., but also the loss of from 5 to 6 tons of tin which, had the boiler been suitable for us, the pulverisers would, I am told by our manager, have returned.—Capt. REED: The Cornish boiler will have the steam up to-day or by to-morrow.

The agent's report was passed, and it was resolved that it, together with the report of the meeting, be printed and circulated amongst the shareholders.

The CHAIRMAN reminded the manager of his promise contained in his letter of last week, that "he could see no difficulty in returning 5 tons of tin per week," and that "as the dressing-floors were completed he could see that a considerable reduction can be made in the costs of the mine at surface."

Capt. REED said, in conclusion, that he could substantiate all that he had stated as to the returns.

A call of 2s. 6d. per share was made, payable on or before the 13th prox., and the meeting then closed with the usual compliment.

HENRIETT MINING AND SMELTING COMPANY.

The ordinary general meeting of shareholders was held at the offices, Tokenhouse-yard, on Monday.

Mr. JOHN HARVEY in the chair.

Mr. CHARLES H. ROSE (the secretary) read the notice convening the meeting.

The CHAIRMAN said—Gentlemen, this, as you are probably aware, is simply the statutory meeting, held in accordance with the Joint-Stock Companies Act, which necessitates the holding of a general meeting of shareholders within four months of the registration of any company. There is practically no business to be brought before you at this meeting; but I and my colleagues are very glad to see the proprietors present, and only regret that so few have put in an appearance. If you should wish to put any questions relative to your property we shall be happy to answer them as far as we can. This meeting to submit them to the shareholders. Every week is published a brief summary of what has taken place at the mine, and each shareholder is, therefore, almost in as good a position to know what has been done as the board themselves. It is true the returns have not quite equalled the expectations of the directors, and this arises from two causes. The first is that in consequence of a most favourable contract which was entered into, running from October to December, the manager deemed it advisable to take advantage of the then high prices to dispose of a quantity of low grade ore for which, under the previous contract, he had no sale. We have, therefore, been able to get a fair amount of profit out of this—more than sufficient to provide for the dividend of 2 per cent., which was paid on Dec. 1, and to cover all the working expenses, those expenses up to the present time including not only what was necessary for extracting the ore but also for sinking the shaft and developing the mine. The second cause which has contributed somewhat to render the returns less satisfactory is that our neighbours—the Big Chief, Clontarf, and Wolton—for some reason stopped pumping, and the lower levels were flooded in consequence. Such a thing had never happened before, but it necessitated our buying pumps and erecting new boilers with which to drain the mine. This has been done satisfactorily, and we have now full control of the water, and need have no further anxiety on that score. The shaft No. 3, as you will see here on the map, is being sunk to meet the lode about the middle of the property. We were in hopes that by Jan. 1 we should have received telegraphic advices that it had been reached. Instead of that we have a letter to say that the water at the bottom gave them a considerable amount of trouble, and it will be a little time before this is accomplished. As soon as they reach the lode, which we expect will yield good ore equal to what it is in other portions of the mine, the returns will be considerably increased, and although the present contract, under which we are working, is not so satisfactory as regards prices as the last, we hope the reduction will be only temporary. Silver is lower in America, probably owing to the same that some people have taken in regard to the possible suspension of the Bland Bill, which provides for coining a certain regular amount of silver, and also the fear that the import duties on lead may be reduced, so as to make lead very much lower throughout the States. These are probably only big hitches which will soon disappear; at all events, we hope so. In any case the prices we are now getting are sufficient to enable us, if the returns are increased, to pay very handsome dividends. It may be satisfactory to know that up to the present time we have not had occasion to encroach on our working capital at all; that lies intact, and is available for future operations. It is the intention of the board as far as possible to confine the exploratory and development operations to what we can afford out of our revenue. (Hear, hear.) We know the principal lode is a very rich one, but up to date we have every reason to believe will prove extremely valuable, if not equally rich. Further investigations will at once be made at that point. Leadville, as you probably know, is only a place of what you would call mushroom growth. I believe it has been in existence only about four or five years, and really the mineral wealth of the district is unknown. They have got enormous quantities of ore from the surface, but nowhere have there been deep sinking to try to what depth the mineral veins go. It is believed that so long as you meet with porphyry so long may you expect to meet with fresh lodes containing silver. However, such is the appearance at the bottom of our mine; and we intend, at no distant date, to bore through this porphyry, and see whether or not we come across further veins. I do not know, gentlemen, that I can say very much more, because, as I have already said, the returns given weekly to every shareholder enable them to know pretty well the state of affairs. It only remains, therefore, for me to say that the board have decided to declare a further dividend of 2 per cent., payable on Feb. 1 next, and that I hope the shareholders will find satisfactory.

The CHAIRMAN, in reply to a question, said the map in the office was altered according to the weekly reports. The better grade ore had not been worked upon since December, owing to the flooding of the mine, but the latest reports were most satisfactory. They stated that "it is the intention of the manager

to run the main incline ahead and past the No. 3 shaft about 10 ft. to the south, and then connect the incline with the shaft by a short drift at right angles. This will enable him to hasten through the No. 3 shaft.—The New Machinery: The average daily output is 65 tons; the ore is better grade." The Chairman added that he intended visiting the property in March next.

A SHAREHOLDER: Was the poor grade ore you refer to taken into consideration in Mr. Hart's estimate of reserves?—The CHAIRMAN: No, it was not. We worked the low grade ore up to Dec. 1 because we got a good price for them, and we were not able to get at very rich ore or then in consequence of the flooding of the mine.

At a special meeting which followed two formal alterations were made in the Articles of Association to comply with the requirements of the Stock Exchange. The meeting then closed.

CHONTALES COMPANY.

The adjourned general meeting of the shareholders was held at the offices of the company, Gresham House, Old Broad-street, yesterday, The Right Hon. the Earl NELSON in the chair.

Mr. J. JAMESON TRURAN (the secretary) read the notice convening the meeting, which stated that it was held to consider a proposal from the directors for raising additional funds for the development of the Consuelo and Consuelito Mines. Prior to the opening of the meeting, the Chairman explained the position of the working in the deep adit level at the Consuelo Mine.

The CHAIRMAN said the meeting held on Dec. 29 was adjourned for the purpose of getting the latest information from the mines, and since that time a letter, dated Dec. 5, had been received from the mines. Mr. White stated that in the Consuelo deep adit they had not yet communicated with the point they were aiming at in rising, which indicated that their new rise must be west of the old underground workings, and if so, they had still 70 vars more to drive in the level to get under the best part of the shoot. The directors could not think that this was the correct view, unless they had got into a parallel lode. Mr. White added that they would very likely get into the western part of the productive ground in a short distance more in driving. They had already passed through patches of the lode in the new level, which he hoped would pay very well, and help to keep the stamps going when they were further advanced, and they were beginning to stop the backs. In the past month they had driven the new level east 15 varas, and risen in the new rise 19 varas. The lode had generally been fluctuating, but was getting more settled on nearing the old productive ground. After asking the directors to send another letter of credit, Mr. White concluded:—"I am afraid now since not meeting with any of the old underground workings in the new rise that there may be further to drive than was calculated at first, and our funds here may not be sufficient to carry it through to enable us again to make regular returns." It was added that the cost for November was \$567, including \$30 for timber from the balance in hand of \$988. This letter from Mr. White was sent to Mr. Bell-Davies, with the request that he would advise the directors on the matter. In his reply, Mr. Bell-Davies said it would, in his opinion, be a great pity after doing so much dead-work not to send out the funds necessary to complete the draining of the Consuelo adit beyond the old working, especially as patches of payable ore were now being met with in the level, clearly indicating that not only was the pay shoot being neared but that the gold holds down to that depth. The time required, according to Mr. White's letter, would be under five months; but in calculating the funds required it would be better to provide sufficient capital to enable Mr. White to open the whole run of pay ground at once; for by completing the dead-work at one time they would be able to remove the rich ore more economically. To do this and provide for contingencies he thought funds sufficient for ten months' working should be raised. Mr. Bell-Davies thought there could be no reasonable doubt that the shoot would repay that sum, together with the entire cost of the adit, and, judging from the class of ore found, it was probable that a considerable surplus would be left.

Mr. C. S. HILL remarked that at the last meeting Mr. Palmer suggested that Mr. Bell-Davies had only been at the mine for 10 days, and had, therefore, been over-paid.

He (Mr. Hill) could not answer the question at the moment though he expressed considerable doubt whether Mr. Palmer's statement was founded on fact. He had since found that instead of 10 days, Mr. Bell-Davies was on the mine for six weeks—from Nov. 24 to Jan. 5.

The CHAIRMAN added that at the last meeting the following resolution was passed:—"That this meeting is of opinion that an effort should be made to raise further sum, if necessary, to develop the Consuelo and Consuelito Mines, and that this meeting be adjourned to Friday, Jan. 26, 1883, at two o'clock, at the offices of the company, to enable the directors to lay before the shareholders some scheme for that purpose." In consequence of that the directors consulted their solicitor, Mr. Bumpus, as to what had better be done, and the resolution which they proposed to submit to the shareholders was—"That the sum of 2000/- be borrowed for the purposes of the company to be secured by debentures bearing interest at 10 per cent. per annum, and forming together with any debentures which may hereafter be issued not exceeding with the present issue the total sum of \$5000/-, a first charge upon the undertaking of the company. The directors would very happy to get the money at a lower rate of interest, but it was thought that less than 10 per cent. would hardly be a sufficient inducement. Of course, the 2000/- of debentures would rank equally with the remaining 3000/-, borrowed for the present, a first charge upon the undertaking of the company. The directors would be pleased to consult the shareholders.

Mr. HILL, in reply to a question, said the debentures raised in the previous month were issued at 10 per cent. Of course, the interest would only amount to \$500/- on the \$5000/-, and if the mines were to be a success that would be very small.

The CHAIRMAN, in reply to Mr. DART, said they only required 2000/-; but if it were thought better the resolution could be modified to the effect that \$500/- should be raised at such times as the directors thought it best.

A SHAREHOLDER asked how long the 2000/- would probably last. Mr. White P.

The CHAIRMAN said the costs would not exceed 150/- a month, so that it would last about 12 or 13 months. The arrears of call now amounted to 2055/- 2s. 6d., and the liabilities of the company amounted to 1439/- 12s. 2d. Some of the calls, however, were rather doubtful. In reply to a further question he (the Chairman) said Mr. White's salary was 550/-; but he allowed a portion of it to be placed on the mine for six weeks—from Nov. 24 to Jan. 5.

The CHAIRMAN then moved the resolution after 2000/- to 5000/- in the first clause, and adding at the close, "The first issue of such debentures to be 2000/-" —Mr. DART seconded the motion, which was carried unanimously.

On the motion of Mr. SYKES, seconded by Mr. DART, a vote of thanks was passed to the Chairman, and the meeting then closed.

WHEAL COMFORD AND NORTH TRESAVEAN.

At a meeting of shareholders held at the mine on Jan. 18—(Mr. JOHN L. PETER, the purser, in the chair)—the accounts showed a loss on the 16 weeks' working of 378/- The report of the agent, Capt. Treganowan was considered highly satisfactory. He reports that on the tin lode since the last meeting James's shaft had been sunk to the 15 under adit, and timbered up complete for drawing. The lode in the 15 end west is evidently very large, and it is standing both north and south of the end, and contains little tin throughout, but I expect to have to drive a few feet further to get under the best run of tin ground seen in the stopes above. The stopes are now brought on from the end of the winze by nine men, at 5s. 6d. per ton of stuff. The lode here is fully 3 ft. wide, and worth for the width 15s. per fathom. In the last 18 weeks a winze has been sunk on the copper lode from the 10, and holed to the 20. This winze has produced some very good copper ore, which we have recently sold, and I have now set the ends of it to three men, in a tribute of 10s. in 12s., and the men are breaking some good copper for the next sampling. The mine may now be considered to be opening out in a manner-like and satisfactory way, and I hope good returns will continue to be made.

The PURSER stated that the costs are brought up as close as possible, and contain items which will not occur again. The expenditure for the next 16 weeks is estimated will be considerably less. The sales of tin have, as you will observe, largely increased since the appointment of the new agent and dresser. At the first favourable opportunity the 320 shares belonging to the adventurers can be disposed of, and the debit balance considerably reduced. There are no water charges for pumping, the mine being drained free of cost by the pumping engine on the adjoining Tresavean Mine. The well known Cadby's and Michell's lodes now being worked on in Tresavean Mine run through Wheal Comford and North Tresavean, and are believed to form a junction in that sett, the company having fortunately secured a large slice of the ground known as the Old Tresavean Mine and added it to their sett. Hence the name Wheal Comford and North Tresavean. Probably the mine never looked better than at present.

GLASGOW CARADON.—The directors, in their report prepared for the meeting on Feb. 5, state that, notwithstanding the price of copper has been below the average of former years, they are able to show better results than for several years past. The loss on the year's working was 1222. 9s. 1d. Capts. William and W. J. Taylor report that the increased returns have about met the working costs. Had the same price for ore ruled throughout as at one or two of the sales they would have shown a profit against a considerable loss in the preceding year. At the same time they have increased the cost by more exploratory working in the mine and making new discoveries, especially on Harvey's lode; and from present appearances they have every reason to hope and believe that in the ensuing year they will further increase the returns, and at the end show a substantial profit.

MARKE VALLEY.—At the meeting on Jan. 19 (Mr. W. Bellington in the chair) the accounts showed a balance due to bankers of 9372. 2s. 11d., a loss on the 12 weeks' working of 1846/- 3s., and a balance of 3782. 0s. 11d. A call of 4s. per share was made. Shares in arrear of two or more calls will be forfeited at the next meeting. Capt. George and Renals reported upon the various points of operation. Every effort was made to cut the Wheal Jenkyn lode before the meeting, but they now (Jan. 17) think it may take them a fortnight longer; they are in a good channel of ground, and are sanguine of meeting with a profitable lode at this depth.

SOUTH CARADON.—At the meeting on Tuesday (Mr. Richard Hawke in the chair), the accounts showed a profit on the 12 weeks' working of 1281/- 4s., and an available credit balance of 18997. 8s. 10d. A dividend of 1024/- (2s. per share) was declared; 357. 12s. was paid for sett of Trenouth and Trethake estates; and 8397. 16s. 10d. was carried to credit of next account. Capt. John Holman reported that since the last meeting they have commenced operations in the new ground which has

recently been taken to the south of the present workings, and costed for 299 fms. in length. They began in the centre of the sett for north and south and about 140 fms. west of the eastern boundary, where they have laid open for exceedingly fine lodes, all presenting a good appearance, and underlying south. On the middle lode they have also sunk a trial shaft 9 $\frac{1}{2}$ fms., but have been obliged to suspend it, having met with water. The lode is about 3 ft. wide, composed principally of gossan, quartz, occasional stones of mundic, and staining copper ore, and, in their opinion, is the best lode they have ever seen at such a depth—well worthy of vigorous development. They would strongly recommend operations be continued here by sinking an engine-shaft without delay, and the erection of a suitable engine to get down and cross-cut the other lodes, when they think there is every probability of meeting with great success.

FOREIGN MINES.

ALAMILLOS.—Jan. 17: In the 20, driving east of San Martin's shaft, the lode is producing stones of ore, worth 10s. per fathom. The lode in the 20, driving west of San

the shaft, just against the top bunch of ore. We have obtained some good ore while sinking the winze, but it has not been so productive as it promised at first. The 13 has been driven east and north over 4 fathoms. We have broken several bags of ore out of it, and the lode is holding on strong and healthy, and will, I believe, soon improve. I consider we have broken and dressed 30 tons of ore during the month. I have sent away 24 tons, and have still 40 tons on the floors; but having now six teams engaged in carting, I hope to send it down faster. The roads, however, are heavy at present, owing to the recent rains.

— Dec. 8: I am pleased to say that in stripping out the north side from the bottom of the engine-shaft, referred to in my last report, the deposit of ore has been even greater than I had anticipated—in fact, it is the best bunch of ore for size and richness that I ever saw during my 30 years' experience in copper mining; within a week we have broken and hauled from it 15 or 18 tons of 40 per cent. ore. I believe that in stopping on the necessary ground for a good plat we shall break fully 6000l. worth of ore. You will of course gather from my reports that the lode does not run regular with continuous veins or layers of ore, as in some localities, neither is the ore mixed up with inferior vein-stuff, but when it makes it rich and clear, and the best feature is to my mind that the deeper we go down the larger and better the bunches of ore are, and the general opinion is that these bunches of rich black oxide and grey ore are such to lead down to a continuous lode of rich yellow ore.

FORTUNA.—Jan. 27: Canada Inca Mine: In the 70, driving west of San Pedro shaft, the lode is strong and promising, opening up profitable ore ground valued at 1 ton per fm. The 80, driving in the same direction, continues unproductive. The lode in the 90, driving west of San Pedro shaft, is sufficiently large, but has slightly declined in value to ½ ton per fm. In the 120, driving east of O'Shea's engine-shaft, no improvement. In the 100, driving east of Lowndes' shaft, fairly good stoping ground was laid open during the past month, but the lode is now in contact with the cross-course. The lode in Elvera's winze, sinking below the 80, has improved in value in the past fortnight to 1 ton per fm.—Los Salidos Mine: In the 175, driving west of Taylor's engine-shaft, the lode is very small, and the granite hard. The lode in the 175, driving east of Taylor's engine-shaft, is changeable, and not so productive as a short time since. In the 145, driving in the same direction, a great length of rich lead is being opened up, worth 3 tons per fm. In the 130, driving east of Taylor's engine-shaft, there is a very valuable lode, producing 2½ tons per fm. The lode in the 120, driving to the east of San Pablo shaft, is somewhat reduced both in size and value, its present worth being ½ ton per fm. The lode in Almeda's winze, sinking below the 160, has declined in value during the past few days to 1 ton per fm.—Los Salidos Mine: In the 175, driving west of Taylor's engine-shaft, the lode is very small, and the granite hard. The lode in the 175, driving east of Taylor's engine-shaft, is changeable, and not so productive as a short time since. In the 145, driving in the same direction, a great length of rich lead is being opened up, worth 3 tons per fm. In the 130, driving east of Taylor's engine-shaft, there is a very valuable lode, producing 2½ tons per fm. The lode in the 120, driving to the east of San Pablo shaft, is somewhat reduced both in size and value, its present worth being ½ ton per fm. The lode in Almeda's winze, sinking below the 160, has declined in value during the past few days to 1 ton per fm. The weekly weighings of ore were kept up very regularly during the past month, and the stopes are yielding moderately at present. The tributaries delivered into the stores in December 1775 tons of ore. The ordinary surface works are going on satisfactorily, and the machinery is in good working order. We estimate the raisings for January at 320 tons.

San Anton Mine: The lode in the 55, driving east of Henry's shaft, is large and strong, with spots of ore. The 55, west of Henry's shaft, has changed unfavourably during the past week. In the 45, driving in the same direction, the lode has improved to ½ ton per fm. The sinking of Henry's engine-shaft below the 50, has been commenced, and we expect to get it down to a 55 at a good rate. The lode is large, with good stones of ore. San Francisco Mine: In the 40, driving east of San Francisco's shaft, the lode is sufficiently large and regular, but does not contain ore enough to value. The lode in the 40, driving west of San Francisco's shaft, is very wide and strong, but without ore. The works are going on very regularly at all the mines, and fair progress is being made with the erection of the beam-engine on the Tesoro shaft. We returned the usual quantity of ore in the past month, during which the stopes did not undergo any change of importance. We estimate the raisings for January at 75 tons.

FRONTINO AND BOLIVIA.—Jan. 25: The following is the statement of profit and loss account for the month ending November, 1882—2500 tons from general mines produced 3165 ozs. (average 1 oz. 5 dwt per ton); gold bought, 219 ozs.; total, 3354 ozs. Estimated value of the gold, including exchange, 3455l.; cost at the mines, at Medellin and in London, 5022. 4s. Monthly allowance for freight, commission on gold sales, and sundry fluctuating outlays not immediately ascertainable, 250l.; gold bought of tributaries, 327. 18s., equal to 5500l. 2s.; profit, 2814. 18s. It addition to the cost of 5012. 4s., the sum of 675l. has been spent out of the new capital recently provided, and has been debited to capital account. The report from Mr. F. White, which accompanies the accounts for the month of November, show that the mines are still going on satisfactorily, and that the works of development, although not yet completed, are drawing to a close. The remittance itself is the largest which has ever been received from the mines, and but for the increase of the monthly cost (it is 234l. more than last month) the profit would have reached the sum of 3048l. 18s. In Mr. F. White's report issued with the monthly report of Sept. 30 last it was explained that in the mine accounts the ore crushed by the mill had always been reckoned at the rate of about 27 cwt. to the ton. From Jan. 1 the ton of ore will be taken at the real rate—20 cwt. to the ton.

GOLD COAST.—Cablegram from the manager (via Madelira) announces a further remittance of 33 ozs. of gold per s.s. Bonny.

ISABELLE GOLD AND SILVER.—The Manager, Dec. 25: After the holidays I shall have eight men stoping ore, and in three weeks hope to have the shaft to bottom for another stop. The mill I hope to start to-morrow. The Christmas holidays have somewhat interfered with work both at mine and mill.—Foreman's Report: The shaft has been cleared out and timbered 14 ft. during the week. The east drift has been driven in 4 ft. The men that were running the drift have been cutting out a place for the tank, so that very little work has been done in the drift. Two men have started to slope above the incline taking out pay ore. Four men have been pumping out the incline two days and two nights to keep the water down in the shaft. I think to-morrow the steam pump will be ready to run, so that there will be four men more to take out pay ore.

— The manager writes, Dec. 31:—“Half an hour before midnight of the 28th we commenced crushing at the mill, and on the 29th I cabled as follows: ‘Commenced crushing.’ So far as I can yet judge the furnaces do their work well. It will take some days, however, before everything gets into its proper groove and works smoothly. Almost all our furnace men are green hands, our old having left while we were shut down for extension of mill capacity; but it will not take long to initiate the new ones. We are having a severe snow storm, but not enough to interfere with ore-hauling.” Foreman's report, Dec. 30:—“I herewith hand you the following report: The shaft is down 194 ft. During the week the men have been lining the shaft and connecting steam pumps. East drift is now in 64 ft., having been driven in during the week 14 ft. The two men above the winze are still taking out good ore, and also the four men in the topes are taking out good ore.

KAPANGA GOLD.—Telegram: Since last message we have crushed 70 tons of quartz. The yield has been 183 ozs. of gold; 7 looking well.

KOHINOOR AND DONALDSON CONSOLIDATED.—Mr. Alfred Rieckard, in his report for the week ending Dec. 30, says:—The No. 1 level is in 327½ ft.; the vein is 8 in. wide, composed of a felspathic and quartz mineral; a cross-cut will be put out east to prove the value of the main vein. The No. 2 level is in 419½ ft.; a small vein yielding ½ ton of smelting ore has made its appearance on the footwall; it is 2 in. wide, and of good quality. The No. 2 stopes are yielding ½ ton of smelting and 1½ ton of concentrating ore per fm; lode not so large. The No. 3 level is in 221½ ft.; the lode has dropped into the footwall; preparatory against winze from No. 2 some rock will have to be cut out to reach the ore vein. The No. 3 winze is down 75 ft., yielding 1 ton of smelting and 2 tons of concentrating ore per fm; the lode maintains its strength and size, being 2 ft. wide. The No. 4 level is in 245 ft.; a small cross-course has again intersected the vein. The No. 1 cross-course in the 100 ft. level, has gone through 5 ft. of vein-stuff; there is still ahead the vein on which the winze from No. 4 has been sunk, evidently there are several parallel veins at this point. The No. 2 cross-cut in the 100 ft. level has for object the probing of the above veins further south. The branch of arsenical pyrites in the 200 ft. level is 16 in. wide, and quite solid. The grade of the ore being very low at the point now reached in the 3½ ft. level the work will be suspended in it pending the development of the footwall veins at the 100 ft. level. In the Champion mine the flats at the 200 levels are being timbered, and the bottom of the west plat shows 2 ft. of scattered smelting and mill ore. The 200 ft. level east is in 29 ft., and the breast shows 10 in. of mill ore, as does also that of the Telephone adit, which has been driven 154 ft. In a letter addressed to the board dated the 5th inst., the resident director observes that the Champion Mine will yield its expected output just as soon as the enlargement of the shaft is completed, and the new plant is in running order. The new engine for the hoist is of 50-horse power.

LAKE SUPERIOR NATIVE COPPER.—Captain Williams, writing from the mines on Dec. 25, sends the following report of work done during the week ending Saturday, Dec. 23: No. 1 shaft on course of lode sunk 4 ft. 6 in.; total, 112 ft. Lode fully 15 ft. wide; average yield of native copper, 3 per cent. I am having a drain cut in hanging-wall of lode in this shaft 40 ft. below the No. 1 level, by which I hope to take up all the water and have the bottom of the shaft dry. If we succeed in this, we shall be able to sink from 8 to 10 ft. per week in future. No. 3 shaft sunk 4 ft. 6 in. (total 54 ft.); producing occasional stones of copper glance. No. 1 level north in course of lode advanced 5 ft. 6 in. (total 43 ft. 10 in.); average width of lode 9 ft. producing about 2 per cent. of native copper. No. 1 level south on course of lode advanced 13 ft. 6 in. (total 24 ft. 6 in.), producing some saving work for copper glance, and occasional pieces of native copper. We are getting out a good supply of cordwood, a little more than it takes to supply our boilers and the different houses. The weather has been much milder the last few days, enabling us to make much better progress at surface.

LIMA MINE.—Jan. 17: Pozo Areo Mine: In the 115, driving east of Warne's engine-shaft, the lode is large and strong, but does not contain any ore at present. In the 130, driving in the same direction, the lode is very open and yielding good stones of ore, worth ½ ton per fm. The lode in the 130, driving west of Warne's engine-shaft, is small and unproductive. In the 115, driving west of Warne's engine-shaft, the lode continues large and strong, but is not so productive as it was, being valued at 1 ton per fm. The 135, driving west of Peill's engine-shaft, is opening up a good length of valuable ore-ground, worth 2 tons per fm. The lode in the 132, driving east of Peill's engine-shaft, is small and unproductive, and the ground is hard for driving. In the 120, driving in the same direction, the lode is regular and well defined, producing 2 tons per fm. The lode in the 105, driving east of San Francisco shaft, is getting very small, and yields but ½ ton per fm. No. 249 winze, sinking below the 100, will be hoisted to the 115 by the end of the month. The lode in No. 246 winze, sinking below the 75, has fallen off very much in value during the past fortnight, and is now producing 1 ton per fm. The 249 winze, sinking below the 115, is going down in a splendid lode, valued at 2 tons per fm. Quinton Mine: In the 120, driving east of Taylor's engine-shaft, the lode is large and strong, containing a few spots of ore. The lode in the 90, driving in the same direction, is very open, yielding a little ore, but not sufficient to value. The 65, driving east of the 22 (2 lode), driving east of San Francisco shaft, is small, consisting of carbonate of lime and lead-stone, valued at ½ ton per fm.

MYSORE GOLD.—S. R. Tonkin, Jan. 2: I am not able to report rapid progress in any of the sinkings for the past week, but, considering the hindrances we have had on account of the Christmas holidays, I think we have done fairly well. From the great increase of water in Tennant's shaft (present depth 214 ft.), I am afraid that our present pumping machinery at that point will shortly be found inadequate to keep the place properly drained; however, the

coming dry season may possibly enable us to work until we get one of the larger pumping engines asked for some time ago. The ground in bottom of this shaft is of a promising nature, consequently I am anxious to prove it in depth—say at 155 ft., or more from the surface. At Taylor's shaft (present depth 150 ft.) we are carrying on operations with due regularity, and in six or seven weeks from this date I hope to be at the required depth for starting out levels. I propose to sink to a depth of 175 ft. from surface, and commence the drivings at 170 ft., leaving 25 ft. of the bottom of shaft for a fork. If you decide for us to sink to a greater depth than that above named I trust that you will kindly advise us at the earliest opportunity, so that I may make arrangements accordingly. The ground in bottom of this shaft is of the same congenial nature as previously reported.

NEW EMMA SILVER.—G. Cullins, Alta City, Utah, Jan. 1: Since my letter of the 25th ult. the shaft has been sunk 7 ft., making the depth at present writing 90 ft.; rock continues hard, machinery working perfectly satisfactory, and the weather cold and stormy. Since closing of railway our mail is brought through on horseback and on foot, and on account of snowstorms will necessarily arrive and depart very irregularly during the remainder of the winter, and my letters not reach you weekly it will be by reason of mails not getting through.

NEW DYDROOG GOLD.—B. D. Plummer, Jan. 2: Mining Operations—Maharajah Reef: In the south end at the 95 nine men are employed; the rock is somewhat tighter to cut than usual, but the vein is kindly in appearance; it is 13 in. wide, the quartz shows visible gold to the eye without the aid of a glass. The north end is also in tight schist rock, though we have not yet found any gold since it passed through the cross-course; the appearance is still kindly, I think more so at this time than as any point before; since it passed the sparry belt much more water is forcing its way through the rock, and the schist is more impregnated with oxide of iron. In the 62 ft. level, north of the air-shaft, there is a good-looking lode of quartz and iron oxide stains, fully 3 ft. 6 in. wide, which continues to show gold. In the sinking below the 95 both in the winze and the shaft rather slow progress is made, in consequence of the water we have to cope with. The lode in the winze is 2 ft. wide; it is greatly mixed with mica, and it adjoins the cross-course. I think to judge from the underlie and angle of bearing the winze will get into more settled rock as depth is gained, when the lode will probably improve; it produces good coarse grain gold at present. The lode is being carried 12 ft. by 6 ft.; the lode is 2 ft. 6 in. wide; it contains small branches of quartz, and the remainder is made up of mica schist, iron oxides, and magnetic iron. —The New Shaft, Maharajah Reef, North End: We are making good progress; the lode is 2½ ft. wide, and some brown quartz is making its appearance, and I think this end is more promising. In the cross-cuts east and west at the Intermediate shaft a good improvement has taken place in the nature of the rock in the east end; it is now of a light colour, with a small friable quartz, and more like rock we find close upon the lodes. —Eastern Reef—M'Taggart's Shaft: In the winze under the 70 good progress is made, and the rock composing the lode has a better appearance; there is gold in it, but we must look for a further change in the character of the containing rock before any riches may be expected; this shaft is now 122 ft. deep from surface. In the west cross-cut there is a large stream of water forcing itself from the forehead; if the vein continues to hold down that can be seen in the nullah at surface we may hope soon to strike it. Stamping is carried on with great regularity. The machinery and engine continue to perform their duty very well, and all the work at surface is in a satisfactory state.

ORGANOS GOLD.—J. G. Green, Dec. 4: The six heads of stamps worked 14 shafts one complete week, and we have obtained 2 lbs. of gold from same; thus with 13 heads I calculate on getting at least 30 lbs. per month, at a cost of 5000l. or 6000l. We have about 3 lbs. here in the safe, but I do not think it worth while sending such bit home. At the mill we have been getting on fairly well; 13 heads of stamps are nearly completed, and now that the fittings for incline have arrived this latter work will have attention, when stamping on a good scale will be commenced. No crushing or speak of has been carried on during the month, it being quite impossible to get the right quantity of stuff down by mules. Seeing this I deem it wise to apply all our energies to get the mill and incline finished, and abandon the crushing on a small scale, as we commenced. Enough has been done to satisfy the most sceptical that we have a good basis to work on, and one pointing in every way to no uncertain results—profits.—Roger's Level: We have come into a very fine lode in this end, in very fair train for success. Now the wire rope and drum is mostly delivered every nerve will be strained to get the inclined finished and working. This is no small job, and this you would be the first to own if you saw it. The length is 900 ft., and an incline of 60°, so that men have to stick to ropes while working. All the rails and sleepers are being made of oak and spiked down. I have worked as a mechanic to assist my brother every moment that I could get away from the mine and other work. I could not do more if everything was my own—but fact we would not try to do as much.

PEREFITTE.—Manager, Jan. 22: Owing to bad weather during the early part of last week, when it was snowing very heavily, we were able to send from the mines to the floors only about 250 tons of ore, about the same quantity having been broken during the week. From this ore we have taken out 44 tons of ore of splendid quality, and some handpicked blonde. There is no change in the value of the lode worthy of notice.

POTOSI.—Ch. de Lemos, Dec. 20: The work at Peru Mine, &c., has been progressing since I wrote. The derrick at Attwood shaft is up, and the winding engines are being erected. Considerable progress has been made with the water-line from Pozo del Dante, and the boiler at this shaft will be in place to-day. The levelling of mill site is well advanced. Nearly all the timbers for mill-shed are prepared, and the first posts were put in yesterday. This building ought to be finished within a month from date. Nearly all the heavy timbers for mortar block, &c., are on the spot, ready and squared for use. The Attwood shaft has been making much water lately, of which, however, part is from surface, increased by the heavy rains of the last few weeks. Some different pumping arrangements will have to be made shortly. The lode at bottom is about 2 ft. 6 in. to 3 ft. wide, and produces some very fine rock, with plenty of visible gold.

RARA FORTUNA.—N. M. Maxwell, Report for Nov.: The main engine-shaft has been sunk during the month 1 m. 12 c. The cross-cut from this shaft to the lode was started on Nov. 15, and will be driven with all possible speed to communicate with the winze sunk below the No. 1 level, when the sinking of shaft and winze will be resumed, and No. 2 level north and south be commenced in good ore, and we shall thus soon open ground for stoping at this end of the mine. I should like to have sunk this shaft another 6 metres before cross-cutting; but, as I presume the stockholders are getting anxious to see returns, I am endeavouring to open ore-ground as quickly as possible, and will try and get the shaft down 22 metres for the next level. Driving by day-work three shifts of eight hours. The No. 1 main level south has been driven during the month 7 m. 95 c. The lode in the end is still poor, but must soon improve, as we are within 4 metres of communicating with the pure driving north to meet; set at 820 per metre. The No. 1 level, north from No. 2 winze, has been driven 4 m. 33 c.; there is still a good branch of lead and blonde in the end. When the communication is made we shall go on sinking below this level in the bunch of ore, and push forward as fast as possible to 3 February. The rails are laid up to south end; set at 820 per metre. The shallow level south has been driven up to the month 6 m. 61 c.; the ground has become easier for driving, and about the latter part of next month we shall start another rise in the back upon a run of ore which the old men had. The prosecution of this level will, I believe, lead to very important discoveries of ore. The stope in the back of this level is not so good as when last reported; worth 15 c. per fm. for lead and blonde. All the pumping and winding machinery are in good order and working well. The connections for completing the dressing-floors are not yet on the mine, and it will take two weeks after they get here before ore-dressing can be commenced. We have some large piles of ore-stuff ready to put through, and I am very anxious to get it dressed and shipped from here. I am sorry to inform you that Steers, one of the English miners sent out, died last week after an illness of two weeks. The general health is better, but men are scarce on account of the sowing season.

RICHMOND CONSOLIDATED.—Telegram, Jan. 23: Week's run (No. 4 furnace) \$11,000, from 302 tons of ore; refinery \$10,000.

SAFETY.—Samuel Longley, Jan. 1: The 100 station, on south side of shaft, is pro-

gressing favourably on its productivity, and it now produces low quality stuff that contains less gold than will pay for its reduction. I have now an increased number of men sinking, so as to prove as early as possible what favourable changes there may be in the rock below. In the stopes east of eastern shaft the productive lead is 6 in. wide, and produces 1 oz. of gold to the ton. Meza's lode was driven in November 1 fm. 4 ft., producing low quality stuff. I have just received advice of the repaired parts of the machinery having reached Bage, which is only a few days from here.

RUBY AND DUNDERBERG CONSOLIDATED.—Dec. 31: Dunderberg: The upraise from the 300 ft. west cross-cut has been advanced 12 ft., during the week; total, 223 ft. above 300 ft. level. The tributaries are extracting about the usual quantity of ore, and have shipped 7 tons this week; two men, four contractors, and 12 tributaries at work.—Home Ticket: The drift from the bottom of the perpendicular shaft has been advanced 10 ft., in one during the week; the ore body at this part is looking well, and increasing in size as depth is attained. Have shipped 30 tons ore this week, and have about 60 tons at the mine ready for shipment. 11 men at work.—Antipodes and Ingots Locations: The necessary assessment work on these claims for 1882 has been done.

— R. Ricard, Jan. 1: I am just returned from Eureka and I am glad to be able to give you a more cheerful report. As you are aware, there is very little being done in the Dunderberg on day's pay; all the work is carried on by tribute. In the Home Ticket there is a very decided improvement, the bottom level from the old shaft (which has been cleared) has been extended so as to intersect the ore. At the point where they are now working there is a very favourable showing; the grade of the ore in the bottom of the drift appears of better quality than in the top. They are now cutting out the ore on the level of the drift, when a winze will be started to explore it in depth, and according to present appearances we may expect to find some very fair grade ore; at the present stage of development we can scarcely know the exact dip, but according to the dip of all the ore bodies found in the deeper workings it should be in a northerly direction; if so and this ore makes it down it can be worked through the 300 rise, which is being pushed on with all possible speed.

SAN PEDRO.—Capt. S. Lean, Nov. 15: San Pedro: The winze sinking below the 165, by four men sinking and four men at the windlass, is now down 13 metres,

Twinburrow's shaft. This I think will be completed in about two weeks, when we shall be able to explore the 41.

NORTH BLUE HILLS.—S. Bennetts, Jan. 24: The men are at present employed in making a roadway through the adit cross-cut from the tin lode to the engine-shaft, this cross-cut being partially filled with muddy sediment.

NORTH GREEN HURTH.—J. Polglase, Jan. 18: The deep adit level continues in the same easy channel of ground. The men commence to rise to-day in the back of the level, south from deep adit level, and also in the back of the level on the course of the vein in the shallow level.

NORTH HERDFOOT.—T. Trelease, Jan. 25: We have had a branch in the 117 end this week on the north wall of the slide about 31 in. wide, which has been producing good stones of lead ore; it has been running parallel with the slide for several feet, but to-day it has taken a more northerly direction, and has increased in size to 1 ft. 6 in. wide, being composed of capel and quartz, intermixed with mudi and good saving work for lead ore; it is a very kindly lode, and I think it will improve as it gets out of the influence of the slide. The stopes in the back of this level are yielding 5 cts. of lead ore each. We have taken down the lode in the end, in the bottom of the winze, which is yielding 4 cts. of ore per fathom. We have met with some floors of quartz in the bottom of the winze, in the 80, which has disordered the lode at this point, but I hope it will again improve when we get under the floor of the shaft; the lode is now producing saving work.

NORTH TRESKERBY.—Pryor and Son, Jan. 25: The ground in the deep adit cross-cut is very much easier for driving within the last two or three days. The men are making good progress, and should it continue, which we have no reason to doubt, we shall cut the Great Flat Highburrow tin lode in about two months from Saturday next. The underlie of this and all the other lodes is north, and when intersected it will give about 120 fms. of backs on the course of the lode—a mine of itself—and no one can say any other, judging from the extent it has been worked on at the shallow adit level but that a rich and lasting mine will be met with here, to say nothing of the valuable copper lode which has already been opened up. The last lode met with in this cross-cut is 3 feet wide, but we do not deem it advisable to open on it until we reach the great point (the Great Flat tin lode), which is being pushed on with all possible speed. We have taken the air-pipes from the south adit and put them in this north adit level, so as to carry all the air possible for speed, &c. The miners are to have a premium if they can accomplish this important point within the given time.

OKEL TOR.—H. Bulford, J. Rodda, Jan. 25: We have set the new shaft east to sink below the 65 to five men, at 16¢ per fathom, and a rise in back of the 80 against the shaft to six men, at 9¢ per fathom; there are 6 fms. of ground to sink and rise through to make the communication, which we hope to accomplish in six weeks from this time; the lode in the shaft and rise is producing saving work for arsenical and tin ore. We are driving a side tie at the 65 east to avoid some crushed ground. The stop in the back of the 65 is producing 12 tons of arsenical ore per fathom; this stop is worked by four men, but we are unable to set it. We are driving west between the 65 and 50 by four men, at 6¢ per fathom; lode producing 5 tons of arsenical ore per fathom. The winze sinking through a piece of ground on the south lode is set to two men, at 2¢ 10s. per fathom; lode producing 3 tons of arsenical ore and 1 ton of copper ore per fathom. The 50 end east is set to two men, at 5¢ per fathom; lode composed of spar, arsenical and sulphurous mudi, and saving work for copper; the indications at this point are favourable for improvement. The stop in the back of the 50 is working by six men, at 2¢ per cubic fathom, lode producing 8 tons of arsenical ore per fathom (cubed), or 18 tons for the whole width. The end driving east between the 65 and 50 in the western part of the mine is set to four men, at 7¢ per fathom, lode producing 13 tons of arsenical ore per fathom. We have another end driving west by four men, at 8¢ per fathom; lode producing 10 tons of arsenical ore per fathom, and saving work for copper. The stop in the back of the 65 we are unable to set; it is working by four men, lode producing 9 tons of arsenical ore per fathom. The stop in the bottom of the 50 is working by four men, lode worth 8 tons of arsenical ore per fathom. No. 1 stop in the back of the 35 is working by four men, at 5¢ per fathom; lode worth 11 tons, and No. 2 stop is working by four men, at 4¢ 5s. per fathom; lode producing 9 tons of arsenical ore per fathom.

PARYS COPPER CORPORATION.—T. Mitchell, Jan. 25: I am pleased to inform you that the 65, east of cross-course, has further improved this week. We have been cutting into the north side, where we find more lode standing and ore throughout. There appears to be a wide lode here, as we have not yet reached the north wall. This we consider a very important point going into new ground. The precipitation pits are doing very well since we have received the iron.

PATTERSYKE AND CLARGILL HEAD.—J. Peart, Jan. 19: Top Level: In the south end we are making a cross-cut to the west to prove a vein lying 3 fms. off; it is a strong vein, and where we cut it will be about 10 fathoms beyond where it was last seen; the old vein at this point continues the same—a little ore and a nice vein. Low Level: We have now get this level cleared out 5 fms. past another rise foot, and if I am right, there will be no more rises until we get to the forehead, which will be about 25 fathoms; the level is very much broken down where we are, and will be rather slow unless we get into some better ground, but the distance is not much to the forehead. The last two weeks we have cleared out 20 fathoms.

PENHALLS.—S. Bennetts, J. Goyne, Jan. 24: The lode in the 70 east end is 1½ ft. wide, and worth 6¢ per fathom. In the 60 east end it is worth 10¢ per fathom; and in the west end, on the same part of the lode, 6¢ per fathom. There has been no further lode met with in the 60 north as yet. On the Balduin the 40 west end is without much change, and is not yet holed to the winze below the 30.

PERRAN SILVER-LEAD.—Edward Moyle, W. Ninnes, Jan. 25: The depth of Phoenix engine-shaft is 13 fms. 2 ft. below the 60; the appearance of the lode here is simply magnificent. When taking down the bearing portion of it yesterday, it was our intention to have drawn to surface a lump of lead, 3 cwt., but unfortunately, in doing so, it broke into several pieces. It was a source of gratification to us on Saturday last to accompany the Chairman, Mr. Henry Maudslay, M.I.C.E., over the mine, and underground and through all the workings; he expressed himself well satisfied with the progress we have made since his last visit, also especially gratified with the lode in the bottom of the shaft, which, he stated, fully justified our reports. He broke a large lump of lead himself from the lode, and took it with him. We were pleased to be able to congratulate the Chairman upon the valuable property which he and his fellow shareholders possess in these mines, and which we honestly believe is now beyond a speculation, and certain of success. This is the opinion of all the mining authorities who have as yet seen the lode. The 60 end south has been driven 1 fm. 3 in., total distance from shaft 40 fms. 3 ft., the lode is the whole width of the end. We are now in a rich shoot of lead, and have driven over and through several others. No. 2 winze below the 60 north has been sunk 5 ft.; total depht, 3 fms. 4 ft. The 60 end north has been driven 1 fm. 3 ft., total distance from shaft, 43 fms. The new plunger bottom from Messrs. Harvey and Co., is on the mine, and in process of fixing. With the Chairman we thoroughly went into the future working of the mine, and the ideas he put forth relative thereto have had our attention, and we see no better way than to fully carry out his instructions, details of which will appear in our next report.

POLCREBO.—W. H. Martin, Jan. 20: Engine-shaft: The 30 end is driven about 12 ft. east from shaft; when we started to drive this level the best sample I could find in the lode produced 20 lbs. of tin to the ton of stuff, since we commenced to drive the lode has gradually improved; the lode is now the full size of the end, 4 ft. wide, and tin disseminated throughout; some stones will produce 2 cts. of tin to the ton. The level is being driven by six men at 10¢ per fathom. The south cross-cut at the 17 is driven 5 fathoms, we have about 10 fms. more to drive to intersect the first lode; driving by four men at 5¢ per fathom. Highburrow shaft has been set to six men at 7¢ 10s. per fathom, to cut down the shaft to the bottom of the 17, and to secure with timber; we hope to complete the shaft to the bottom of the 17 by Tuesday next, after which I purpose to cut a small plat to the east of the shaft, and start the sinking as early as possible. In cutting open the north ground for winze tackle, preparatory to sinking, I expect to find white granite, but instead of this it is the capel of the lode, over 7 ft. wide, and some good stones; this is a good indication for the sinking of this shaft; it will be remembered that this shaft is about 20 fathoms east from engine-shaft. The 17 end is driven at the 17 we have two tribute pits, working by six men, average 12s. 6d. in 12. At surface, we have fixed a new frame and bed to the balance-bob, and the masons are building a new magazine to store mixed explosives. In conclusion, I beg to remark since we commenced operations in opening up new ground the prospects of this property have wonderfully improved.

POLROSE.—W. H. Martin, Jan. 20: Engine-shaft: The 30 end is driven about 12 ft. east from shaft; when we started to drive this level the best sample I could find in the lode produced 20 lbs. of tin to the ton of stuff, since we commenced to drive the lode has gradually improved; the lode is now the full size of the end, 4 ft. wide, and tin disseminated throughout; some stones will produce 2 cts. of tin to the ton. The level is being driven by six men at 10¢ per fathom. The south cross-cut at the 17 is driven 5 fathoms, we have about 10 fms. more to drive to intersect the first lode; driving by four men at 5¢ per fathom. Highburrow shaft has been set to six men at 7¢ 10s. per fathom, to cut down the shaft to the bottom of the 17, and to secure with timber; we hope to complete the shaft to the bottom of the 17 by Tuesday next, after which I purpose to cut a small plat to the east of the shaft, and start the sinking as early as possible. In cutting open the north ground for winze tackle, preparatory to sinking, I expect to find white granite, but instead of this it is the capel of the lode, over 7 ft. wide, and some good stones; this is a good indication for the sinking of this shaft; it will be remembered that this shaft is about 20 fathoms east from engine-shaft. The 17 end is driven at the 17 we have two tribute pits, working by six men, average 12s. 6d. in 12. At surface, we have fixed a new frame and bed to the balance-bob, and the masons are building a new magazine to store mixed explosives. In conclusion, I beg to remark since we commenced operations in opening up new ground the prospects of this property have wonderfully improved.

POLROSE.—S. Bennetts, Jan. 24: Everything has been working well since my last report. While the engine was idle the water rose rapidly in the shaft, but fortunately nothing has occurred to hinder us since we restarted yesterday week, and the surface water having also fallen off a little we are working at a faster rate than we were before the breakage. We hope to drain the 30 to-day, and at our present rate of progress it will not be many days before we reach the 30 again.

PRINCE OF WALES.—S. Roberts, Jan. 24: The 102 east was set on Saturday last to six men at 10¢ per fathom; the men are now taking down the lode which appears to be smaller in size, producing tinstone and a little copper ore, but not yet sufficient done to give its real size and value. The rise in back of this level, to four men, at 8¢ per fathom, to rise by the side of the lode. The 102 west, to six men, at 8¢ per fathom, lode still small, and unproductive, but it is believed by all men it shall soon get an improvement in this end. Stop in back of the 92 west, to four men, at 6¢ per fathom, lode 2½ ft. wide, worth 6¢ per fathom for tin and copper ore. No. 1 stop in back of the 90 east, to two men, at 7s. 6d. per ton of leadstuff, worth 7½ per fathom. No. 2 stop, in back of this level, to four men, at 6¢ per fathom, lode 3 ft. wide, worth 5¢ per fathom for tin. Good luck! Stop in back of the 23, to two men at 5¢ per fathom, lode worth 7¢ per fathom. No setting or change in the tribute department.

ROMAN GRAVELS.—A. Waters and Son, Jan. 25: The 125, south of the new engine-shaft, is in a lode 2½ ft. wide, composed of lead, spar, and stones of lead ore, but not to value. This level going north of shaft is in a lode 3 ft. wide, with nice-looking spar and some bright soft galena, and improving as we go forward. The 110, south of the above shaft, is worth 1½ to 2 tons per fathom. This level going north of the old engine-shaft is worth 3½ tons of lead ore per fathom, and looks likely to improve soon. The winze below the 110, north of new shaft, down 7 fms. 2 ft. 6 in., is being sunk by the side of the lode. The 95, south of new shaft, is worth 5 tons of lead ore per fathom. The rise 4 fathoms behind the fore-breast started this week is worth 4 tons per fathom. The 80, south of new shaft, is up to a point where the lode is split into three divisions; the east part, which we are now carrying, being worth 4 tons per fathom. We consider that the main bunch seen in the 85 will be found in front of us here on the hanging-wall part of the lode. The stopes from the back of the 50 throughout the different levels to the 110 are yielding their usual quantities of lead ore. We have today sampled 250 tons of lead ore, for sale next week.

RUSSELL UNITED.—John Bray, Jan. 25: The lode in the 97, west of the cross-cut, is 4 ft. wide, worth 6¢ per fathom in the bottom part of the end. Not quite so good in the upper. The ground is more settled, and the end altogether is very promising. The lode in the same level east is 3 ft. big, producing large lumps of arsenical mudi and copper ore, with every indication for an improvement. At Stephens' engine-shaft the indications continue good. Now the weather is more settled, and the water in the shaft less, we hope to make better progress.

SILVER HILL.—G. Richards, Jan. 25: The ground in the tunnel level crossing, driving north towards the lodes, is very much improved; the fore-breast is fairly clear of the hard spar and capel that we have had to contend with for the past 5 fms. We shall now again be able, from all appearances, to make good progress in driving. We find the water continues to flow from all parts of

the end, and at times very strongly, which is evidently coming from the lodes we have before us. It is time that some rails were ordered, as we shall be wanting them soon. The machinery on this mine continues to do its duty very satisfactorily.

SINCLAIR.—W. Edwards, Jan. 25: I am glad to say we got the lift completed by Saturday last, and everything has been working well since. The men are at work night and day in the fore-breast of the cross-cut, and I expect to send you important news in a day or two.

SORTINGE COPPER.—Wm. Skewls, Jan. 25: The engine-shaft is now covered over at the bottom of the 40, and footway made good to that point. I am now having the 40 east cleared as quickly as possible, in order to reach the cross-cut, which has been driven north through the No. 1 lode. The lode in the stopes in the back of the 30 is looking much the same as it has been for some time past. The dressing of the tin is progressing very favourably, and I expect to have the burning-house ready to work by the end of next week.

SOUTH CONDURERO.—W. Rich, W. Williams, H. King, Jan. 24: We have communicated the 20 with old cross-cut put out north of engine-shaft many years ago; the tin lode has been intersected in this cross-cut, but not opened on. We shall begin to clear and secure the old level towards the engine-shaft as quickly as possible; but it has collapsed for a great many fathoms in length. The lode in the 30 west is unproductive; two stopes in the back of this level are worth 15¢ and 18¢ per fathom respectively. The 30 end east carries a little lode. The 40 end east is worth 7¢ per fathom. The rise in the back of the 40, west of the cross-course, has a kindly appearance, and is worth 8¢ per fathom. The lode in the 50 end east is hard and poor. The stop in the back of this level is worth 15¢ per fathom. The 60 end east is worth 9¢ per fathom, and the stop in the back of the 50 is worth 12¢ per fathom. The 70 end east carries low quality tin-stone. Two stopes in the back of this level are worth 10¢ and 12¢ per fathom. The 80 end east is worth 12¢ per fathom. The 90 end east is in a strong kindly lode; but is without any tin to value. We have been obliged to suspend the stopes at Marshall's on account of the water; but if the dry weather continues a few days we shall resume these operations. The 66 west is worth 7¢ per fathom, and the 78 west is worth 9¢ per fathom.

SOUTH DARREN.—Henry James, Jan. 25: On Saturday last we let the following bargains for one month: To drive the 130 east and west, by 12 men—east at 9¢ 10s. per fathom, west at 10¢ per fathom. To drive the 120 east, by six men, at 9¢ 10s. per fathom. A stop in back, by two men, at 75¢ per fathom. To drive the 120 west by six men, at 9¢ 10s. per fathom, and to drive down the lode by the side at 80¢ per fathom. A stop in back, west of winze, by six men. To drive the 110 east, by four men, at 9¢ 10s. per fathom. A stop, east of winze, by six men, at 75¢ per fathom. To drive the 110 west, by two men, at 90¢ per fathom. No. 2 stop, by four men, at 60¢ per fathom. To drive the 120 west by six men, at 9¢ 10s. per fathom, and to drive down the lode by the side at 80¢ per fathom. A stop in back, west of winze, by six men. To drive the 110 east, by four men, at 9¢ 10s. per fathom. To sink a winze in the 110 east, by six men, at 10¢ 10s. per fathom. No. 1 stop, in back of 110 west, the lode is 2 ft. wide, and worth 10 cts. silver-lead ore per fathom. The same level west the lode is 2½ ft. wide, composed of spar, with a little lead and copper ore. The lode in the 120 east is worth 1½ ton silver-lead ore per fathom. A stop in back is worth 1 ton silver-lead ore per fathom. In the 120 west the lode is wide, with a mixture of lead and copper ore, worth 10 cts. lead and 10 cts. copper ore per fathom. A stop in back, west of winze, is worth 1½ ton silver-lead ore per fathom. In the 110 east the lode is wide, composed of spar and killas, mixed a little with lead and copper ore and issuing water, which is a favourable indication. No. 1 stop, in back of 110 west is worth 10 cts. silver-lead ore and ½ ton copper ore per fathom; No. 2 stop is worth 1 ton silver-lead ore and ½ ton copper ore per fathom. The tribute pitches continue to produce fair average orestuff.

SOUTH DEVON UNITED.—W. Prisk and Edwards, Jan. 20: Wheal Boys: The lode in the deep adit end, east and west of cross-cut, is worth 12¢ per fathom, and improving westward. We have recently commenced driving east of shaft at the south part of this lode, and are pleased to report we have an excellent point here, the lode being 4 ft. wide, and worth 12¢ per fathom, and standing whole to surface. The lode in the No. 1 stop in the shallow adit is worth 12¢ per fm. The lode in the No. 2 stop in the shallow adit is worth 12¢ per fm. The lode in the adit level, east of Pennick's shaft, is 3½ ft. wide, and accompanied with a beautiful channel of ground, and, judging from the sample I took from the end, which tried 66 lbs. of tin per ton of stuff, the lode is worth 16¢ per fathom. This level is about 40 fms. east of shaft, and I consider the lode never presented a more favourable appearance for continuing good than it does at the present time, and it looks to be quite clear now from the disturbing influence of the cross branches and the unsettled ground recently driven through, which had the effect of heaving the lode about 2 fms. north of its regular course, but apparently in no respect has it interfered in the least with its productiveness. In the coming summer it will be time to begin sinking a new shaft from surface to ventilate and discharge the stuff from this end. I have gone over the ground with Capt. Chegwin, and we thought about 25 fms. in advance of the present end (50 fms. between shafts) would be a very convenient distance. All the surface work has been going on very well considering the weather, and I should think, under favourable circumstances, that in about two or three months more the stamps and dressing machinery would be ready for action.

TRESAVEAN.—Capts. Prisk and Edwards, Jan. 20: Wheal Boys: The lode in the deep adit end, east and west of cross-cut, is worth 12¢ per fathom, and improving westward. We have recently commenced driving east of shaft at the south part of this lode, and are pleased to report we have an excellent point here, the lode being 4 ft. wide, and worth 12¢ per fathom, and standing whole to surface. The lode in the No. 1 stop in the shallow adit is worth 12¢ per fm. The lode in the No. 2 stop in the shallow adit is worth 12¢ per fm. The lode in the adit level, east of Pennick's shaft, is 3½ ft. wide, and accompanied with a beautiful channel of ground, and, judging from the sample I took from the end, which tried 66 lbs. of tin per ton of stuff, the lode is worth 16¢ per fathom. This level is about 40 fms. east of shaft, and I consider the lode never presented a more favourable appearance for continuing good than it does at the present time, and it looks to be quite clear now from the disturbing influence of the cross branches and the unsettled ground recently driven through, which had the effect of heaving the lode about 2 fms. north of its regular course, but apparently in no respect has it interfered in the least with its productiveness.

TREVARREN UNITED.—W. Hooper, Thomas Job, Jan. 22: Since last reported the water has fallen back so as to enable the shaftmen to sink for bearers and cistern below the 20; we hope to complete the same next week and put the lift in its place; we shall then sink with all possible speed. There is no improvement at the south end, on Neil's lode since our last. The north end is improved, and now worth 4¢ 10s. per fathom. We have every reason to believe this end will daily improve as we are coming nearer the east and west lode. —South Level: No. 2 stop is worth 3¢, 15s.; No. 3 stop, 5¢, 10s.; No. 4 stop, 4¢, 10s.; No. 5 stop, 4¢; No. 6 stop 3¢, and No. 7 stop, 2¢, 10s. per fathom. —North Level: No. 1 stop is worth 2¢, 10s.; No. 2 stop, 3¢, and No. 3 stop, 2¢, 10s. per fathom. At the 10 the south end is worth 2¢, 5s. per fathom; No. 5 stop, at this level, is much the same as last reported. The machinery throughout the mine is working satisfactorily.

WEST CREBOR.—J. Andrews, Jan. 24: The lode in the 62 west has improved during the past two or three days, and is now 3½ ft. wide, and worth 12¢ per fathom; a strong good-looking lode. We shall have to drive this end 5 or 6 ft. further before we commence to fit the plunger lift.

WEST DEVON GREAT CONSOLS.—G. Rowe, Jan. 24: Our progress in sinking the engine-shaft below the 36 is very satisfactory in highly mineralised ground, and the lode producing good stones of arsenical mudi mixed with ore. There is no particular change in the appearance of the lode in the 36 west during the past week.

WEST GOLDAHIN.—T.

fathom. At the western shaft we have started the 120 west of the rise; the lode is worth 12d. per fathom. No change in the stopes worthy of any note. All our machinery is in good order, and the mine is being kept drained to bottom without let or hindrance; course of water, 7½ strokes per minute.

WHEAL HONY AND TRELAWNY.—W. Derry, J. Pearce, H. Lanyon, Jan. 24: Since our last report the lode in the 103 end has considerably improved in value, and is now worth 5 cwt. of silver-lead per fathom, and from its appearance we confidently expect it will still further increase in value. The rise above that level is, as last reported, worth about a ton of ore per fathom for its length of 12 ft. The 98 end is split by a horse of killas, but is worth nearly ½ ton of ore per fathom, and as the lode comes together in driving there is not the least doubt it will again become very productive. To-morrow we hope to again drop the pitwork in the engine-shaft, and in a few days to have a sufficient stock to enable us to commence the work of fixing a plunger at the 103. The other works are proceeding as usual, and we have a splendid pile of ore upon the dressing floors from the drivages and riser only. We shall shortly begin stoping in earnest, and feel confident the results will prove satisfactory to everybody interested.

WHEAL SILVER AND BANTEGLOS.—W. Scown: Lamington Mine: We have cleared up about 3½ fms. more of the engine-shaft, and are saving good leadstuff, the same as the samples I sent you last week.

WHEAL UNY.—Wm. Hambley, W. Prother, J. White, Jan. 25: Saturday last was our monthly setting, and the following bargains were re-set: Hind's engine-shaft, to sink below the 182, by nine men, at 30d. per fathom. The 182 end, to drive east of shaft, at 3½ ss. per fathom; the lode is the full width of the shaft, and worth 10d. per fathom. A stop in the back of this level, and east of winze; stoping at 2½ ss. per ton of stuff, and worth 12d. per fathom. The 182 to drive west of shaft, at 6d. per fathom; the lode in the end is about 6 ft. wide, and of a very promising character, composed of quartz, peach, mundic, and capel, and worth 6d. per fathom for tin. We have this day effected a communication by the hoisting of the winze from the level above; this has given splendid ventilation, and also opened up a section of ground for stoping purposes. The 172 end to drive west, at 12d. per fathom; at this point we have met with a hard bar of ground, which has interfered with the make and yield of the lode, consequently the value is less than it has been for the last 30 fms.; the lode in the present end is about 4 ft. wide, and worth 3d. per fathom. We have four stopes working in the back of this level; the average price for breaking the stuff is 4s. per ton, and the average worth of each stope is 17d. per fathom for tin. The rise in the back of the 172 east is communicated with Gooding's shaft, and the men are now engaged cutting trip-plat at the 160; when this is made complete the skip-road will be fixed for drawing from the 172. No. 1 stope, in the back of this level, is set at 2½ ss. per ton of stuff, and worth 11d. per fathom. No. 2 stope is set at 2½ ss. per ton of stuff, and worth 12d. per fathom. We have two stopes in the back of the 160, and east of engine-shaft, worth 13d. per fathom; the other west of old sump-shaft is worth 9d. per fathom; the average price for stoping is 3s. 9d. per ton of stuff. The men are making good progress in sinking incline shaft below the 172, which is now down 3 fms.; set at 7d. per fathom for the whole lift; the south part of the lode, which is carried for the width of shaft, produces stamping work for tin. We also set 11 tribute pitches for two months, at tribute varying from 5s. to 13s. 4d. in 12. All the machinery in the mine is working satisfactorily.

YEOLAND CONSOLS.—Joel Manley, Jan. 17: The deep adit level has been driven during the last month 2 fms. 6 in., but the ground is still very troublesome for progress. We have, however, a very promising lode in this end. No. 2 adit has been driven 3 fms. 4 ft., but part carried is not quite so rich for tin; the lode has a splendid appearance, and will, I think, soon again improve. The carpenters have made the air-pipes, and they are fixed in place. The levels again well ventilated, and I have employed the men putting in a stope over the back for 3 fms. in length and 9 ft. high preparatory to putting up a rise from this point to the shallow adit for ventilation and cutting out section of stoping ground.

TO THE METAL TRADE.

FOR COPPER, FIN, LEAD, &c., apply to—
MESSRS. PELLY, BOYLE, AND CO.,
SWORN METAL BROKERS,
ALLHALLOWS CHAMBERS, LOMBARD STREET, LONDON.
(ESTABLISHED 1849.)

JOHN G. EAST, NEWCASTLE-ON-TYNE.

BROKER FOR THE SALE OF PIG-LEAD, LEAD ORES,
COPPER ORE, COBALT, MANGANESE, CARBONATE OF
BARYTES
ESTABLISHED 1866.

HENRY NUTT AND CO.,
No. 119, BRISTOL ROAD, BIRMINGHAM
PURCHASERS OF
LEAD ASHES, LEAD SLAGS, SULPHATE OF LEAD, TIN
ASHES, TERNE ASHES, AND ALL REFUSE CON-
TAINING TIN AND LEAD.

HENRY WIGGIN AND CO.,
(LATE EVANS AND ASKIN),
NICKEL AND COBALT REFINERS
BIRMINGHAM.

The Mining Market: Prices of Metals, Ores, &c.

METAL MARKET—LONDON, JAN. 26, 1883.

	IRON.	£ s. d.	£ s. d.	TIN.	£ s. d.	£ s. d.
Pig, G.M.D., f.o.b., Clyde...	2	8	0	97	0	98
" Scotch, all No. 1...	2	9	3	98	0	99
Bars Welsh, f.o.b., Wales	5	10	0	5	15	0
" in London	6	0	6	5	0	0
" in Tyne or Tees	7	5	0	7	10	0
" Swedish, London	9	0	0	9	10	0
Rails, Welsh, at works...	5	10	0	5	15	0
Sheets, Staff., in London	8	15	0	—	—	—
Plates, ship, in London	9	0	0	—	—	—
Hoops, Staff.,	7	15	0	—	—	—
Nail rods, Staff., in London	7	0	0	7	7	6
STEEL.	—	—	—	—	—	—
English spring...	12	0	0	18	0	0
" cast...	30	0	0	45	0	0
Swedish, keg...	15	0	0	—	—	—
" fag. ham...	15	10	0	—	—	—
Rails at works...	4	15	0	5	0	0
" Light, at works...	6	15	0	—	—	—
LEAD.	—	—	—	—	—	—
English, pig, common...	13	12	8	—	—	—
" L. B...	13	17	6	—	—	—
" W. B...	14	2	6	14	8	0
" sheet and bar...	14	10	0	—	—	—
" pipe...	15	0	0	—	—	—
" red...	16	0	0	—	—	—
" white...	18	0	20	0	0	0
" patent shot...	16	0	0	—	—	—
" Light, at works...	13	5	0	—	—	—
NICKEL.	—	—	—	—	—	—
Metal per cwt...	—	—	—	—	—	—
Ore 10 percent, per ton...	—	—	—	—	—	—
SPETER.	—	—	—	—	—	—
Silesian, ordinary brands	15	0	0	16	0	0
" special brands	16	0	0	18	5	0
English Swansea	17	2	6	—	—	—
Shea zinc...	19	16	0	20	0	0

At the works, 1s. to 1s. 6d. per box less for ordinary; 10s. per ton less for Canada; 1s. 6s. per box more than 10 quoted above, and add 6s. for each X. Terne-plates 2s. per box below tin-plates of similar brands.

REMARKS.—The tone of the metal market has been again dull this week, and business has continued very limited, the demand being especially inanimate for shipment. But this is now no longer any new or fresh characteristic; it is a feature which has for a long time past been prominently brought forward, and marked the course of all the various markets. With this week we are brought nearly to the close of the first month of the year—a month which has not only been unfortunate and calamitous with regard to things in general, but has also been marked by next to utter stagnation in trade. The closing week has brought no relief, at least so far as metals are concerned. Ever and anon attempts have been made to rouse trade from its state of lethargy by speculators; but they have failed in their endeavours, since regular traders refuse to follow up any little rise their action may temporarily have caused, and consequently prices have almost always, after every little spurt, fallen away again to much about what they originally started from. It is not very difficult to find some reason for the manifest indisposition to do business. Political disturbances on the Continent tend to unsettle the markets; commercial failures more or less destroys confidence, the continued maintenance of the Bank rate up to yesterday created a delay amongst investors in making purchases, calamities at sea and by fire have temporarily drawn the attention of operators from the markets, an unfavourable Indian exchange, although strengthening, still prevents business with one of our largest commercial colonies, previous overtrading checks the demand for the Cape, the increased capability of America to satisfy her own requirements reduces the exports from this to that country, the wintry season as usual limits business with the Continent, while consumers delay buying in the hope of lower prices being quoted by their so doing.

With these and sundry other somewhat unfavourable incidences before us, it is easy to perceive some cause for the temporary lull in the demand, and for the business so often shown to transact business, as buyers naturally think there is a fair chance of reduced rates being accepted. However, at present sellers do not show any disposition to make any material concessions, although, here and

there, slight reductions are every now and then being made to secure what business may be offering. Sellers, particularly manufacturers, do not appear to care to encourage business by reducing their quotations; in this way they nominally maintain their prices, whereas, in reality, somewhat less than the current quotations are invariably accepted. This may be taken as a conclusive sign that manufacturers are for the most part rather bare of orders, and are in great measure dependent upon the business that may come in from day to day to keep their mills in regular operation, a state of things which is to be much deplored at a time like the present, when, as a rule, every one is anxious to make a good start in business for the year. As we have already stated, sellers will not make any great concessions, and this signifies that under the present system of manufacture lower prices would not be remunerative, and are, therefore, not likely to be accepted, while it is even questionable whether the prevailing prices leave a satisfactory remuneration to producers and manufacturers. Yesterday the Bank Rate was reduced to 4 per cent., and this caused a better tone upon our markets, and business in all the leading metals was carried through chiefly for speculative account at slightly higher rates.

COPPER.—The amount of business doing in this metal has continued decidedly small, and some few variations have taken place in the value of Chili bars. For the greater part of the week the market has been exceedingly dull, and for the first three days prices have fallen rather considerably—Chilian produce being reduced to the extent of about 7s. 6d. per ton per day. Yesterday, however, there was some slight recovery in the tone, and prices were quoted a shade higher, not that there was any great increase in the amount of business doing, but holders became firmer in their quotations owing to slightly more enquiry. It has yet to be seen whether this little improvement will be maintained, or whether it will only prove like its few predecessors, but a flash in the pan, and not followed up by consumers and shippers. After a state of quietude it invariably takes some little time to restore any market to its ordinary condition of activity, and consequently fluctuations may be looked for, whether the little better tone proves permanent or not. The export trade to India as yet shows but few signs of improvement. There may perhaps be a little extra demand, but it rarely seems to result in business. Buyers, however, seem to be slightly raising their limits, although as yet they do not altogether come up to sellers quotations. With regard to prices for manufactured they have remained very steady, but in many cases must be considered quite nominal, as more often than not no business can be secured at the quoted rates. However, with the stiffening tendency of the raw material smelters are less likely to make any further concessions, and hence buyers might probably find it advantageous to themselves to make their purchases without delay, and satisfy their future requirements.

IRON.—The changes which take place in this market continue of the most trifling character, and the amount of business doing is limited, small both as regards consumption and shipment, and speculation is dormant. Steadiness is the general characteristic of the market; but, taken all round, the tone seems to be slightly better, but at the same time hardly sufficient to be worth of note, for notwithstanding that in a few places there is said to be rather more enquiry, yet in the majority of the manufacturing districts the following returns testify to an absence of demand and to a scarcity of employment at the sundry mills. Shipments of manufactured are most inanimate, particularly so from London, neither the Eastern nor Western markets purchasing in any large quantities. The Staffordshire qualities prices are easy, for East Coast fairly strong, and for Welsh with variation. With reference to Scotch pigs, the fluctuations have been unimportant, business has remained narrowly confined, and the Glasgow advices will show the slight changes that have taken place in the value of warrants, special brands of makers iron are well sustained; but they do not receive their support from the transactions which are being carried through, since there is no animation at all in the market. There is nothing extraordinary in the shipments, and although they are not very large they nevertheless continue to compare very well with those for the similar period of last year, a feature which may perhaps give some slight strength to the market; but its chief support is evidently derived from the continued weekly, if not daily, reduction that is being made in the public stocks in both Glasgow and Middlesbrough.

The Glasgow warrant market opened very flat on Monday, and transactions were recorded at 48s. 2d., and on Tuesday business was reported between 48s. 3d. and 48s. 1d., closing with an easy tendency, while on Wednesday the market was very dull, and prices continued to recede, buyers refusing to pay more than 47s. 9½d. Yesterday there was a better tone, and there were transactions in cash at 48s., and to-day the price is 48s. The shipments last week were made, being 8051 tons, against 7742 tons for the corresponding week of last year or an increase of 309 tons, and which makes the total shipments for the whole of this year 33,622 tons, against 26,507 tons for the same time of last year, and 27,695 tons for the similar period of 1881. The number of furnaces in blast remain at 106, while the stock in Messrs. Connal and Co.'s yards has been reduced by a further 118 tons, and now amounts to 603,423 tons, against 604,608 tons last week. The imports of Middlesbrough pig-iron into Grangemouth last week were 6758 tons, against 5412 tons for the same week of last year, being an increase of 1346 tons, and which leaves a total decrease of 1319 tons since Christmas this year compared with last. There is said to have been a fairly steady feeling prevailing upon the Middlesbrough market, although the business doing has been decidedly slack. Buyers generally will not pay more than 42s. 6d. for No. 3, at which figure there are second-hand lots offering. Some makers who have combined together are quoting 43s. 5d.; but this figure is quite unobtainable, and other makers not in the combination are asking 43s. Warrants have been in fairly good demand, and are held for 42s., to 42s. 5d. The shipments last week were very fair, and somewhat in excess of what they have been lately, and amounted to over 15,000, while it is satisfactory to note that a further reduction of 2495 tons was made last week in the public stock.

For manufactured iron there is said to be a rather better demand, and the price asked for ship-plates is 6s. 7d., angles 5s. 17s. 6d., and for bars 5s. 17s. 6d. to 6s. per ton. The reports from Sheffield show that transactions are very limited in all classes of iron, consumers holding off the market in the hope of being able to buy at cheaper rates later on. Although there is not much business doing upon the Wolverhampton market, sellers remain firm in their quotations. There is a fair demand for best hematites, and they are quoted at 85s., and the best qualities that have been made for finished iron have rarely resulted in business. Sheets are quoted at 8s. for singles and 15s. more for doubles, while common bars are at 6s. and rods at 6s. 5s. per ton. The Birmingham market is said to have been depressed, although some symptoms of improvement are visible. New orders are very difficult to secure, and manufacturers are also said to have experienced difficulty in obtaining specifications for back contracts. There is no alteration made in prices, but buyers for the most part will not pay current rates. Both manufacturers and the raw material are in restricted demand, especially the better classes. The trade in Wales remains in a fairly sound and satisfactory condition, and some of the works are said to be tolerably well supplied with orders. Advices from New York report a very quiet market in that country, and prices weaker for Scotch pigs. Hematite and Cleveland pigs, however, show some improvement, but buyers are not very plentiful. There is a rather better demand for scrap and old rails, and the former has to some slight extent improved in value.

TIN.—A very fair business has continued to be done in this metal, and various changes have taken place in prices, the movements being of a more or less fluctuating character, at times advancing and at others receding. On Saturday last, at the opening of the market was strong and prices were pushed up, but this was quickly followed by a reaction, and quotations lost all they had gained, and the speculative demand falling off prices continued to recede during Monday, Tuesday, and Wednesday, until 92s. 5s. was touched for sharp parcels of foreign, the market also being somewhat weakened by some disposition being shown by holders to press sales. Yesterday, however, the retrogressive tendency was checked; there was more disposition to buy, and greater reluctance to make sales, and a rally in prices ensued. As the movements in this market are generally so sharp and sudden, would-be operators have to be quick in making contracts, otherwise they not infrequently find the market has often run away from them, and their delay has placed them at a great disadvantage. It is not, therefore, at all surprising that every little new feature is quickly caught at, and numerous operations, either for the rise or fall, as the case may be, quickly follows the cropping up of any fresh event. To-day the market has gained further strength, and business has been done at better rates, cash parcels having changed hands at 93s. 7s. 6d. per ton.

SPETER.—The market is very quiet with drooping tendency, and consumers complain of lack of orders. We quote 15s. 15s. to 16s. for ordinary, and 16s. to 16s. 6d. for specials.

LEAD remains quiet with sellers of Spanish at 13s. 5s., and of English at 13s. 12s. 6d.; buyers 2s. 6d. below.

STEEL.—A fair business in some descriptions is still being carried through, but the general trade is void of briskness.

TIN-PLATES.—There is no new feature in this market, and makers still continue to be firm in their quotations, although at times some second-hand parcels of cokes are to be had at reduced rates.

QUICKSILVER is unchanged at 5s. 10s. without much demand.

The MINING SHARE MARKET has been much weaker since our last, and the dealers chiefly occupied in the settlement of the usual fortnightly account. Quotations, generally, are merely nominal, and very few stand the test of actual business. In Cornwall mines appear to be as dull, if not duller, than in London, and there is a general complaint as to the want of business, and the extreme difficulty of selling shares even in the best mines.

TIN has shown very little change, but the standards for ore were reduced on Thursday 21s. per ton. Tin shares scarcely anything is doing. Blue Hills

one of these trials is the trammimg of the quartz to the mill, as the wages of the mill hands must go on, and the power costs us nothing, and a crushing is infinitely more satisfactory than any number of assays. The mines have been started, and the machinery sent out and erected on the testimony of assays, and, in my opinion, it now remains to be proved whether by treating the ore in bulk we can obtain approximate results either better or more.

In Electric Light Companies' shares there has been comparatively little doing, and prices remain without material change. Brush parents are slightly lower, whilst Hammonds and Swans have advanced. There is no important news with regard to the lights themselves.

The Montana Company, the prospectus of which was published in last week's Journal, was, unfortunately, inaccurate in an important particular. We omitted the name "J. R. Armitage, Esq., J.P., Bradford," from the list of directors. The omission was quite accidental, and altogether without the knowledge or intention of Mr. Armitage or the company. We can, therefore, only express our regret. The Board of Directors, as it appeared in the company's prospectus, and as it should have appeared in the *Mining Journal*, consists of—N. Story Maskelyne, Esq., M.P., Chairman; J. B. Armitage, Esq., J.P., Bradford; The Honourable Bernard Fitz-Patrick, M.P. (now Lord Castletown, owing to the death of his father last week); Wilmot Holland, Esq. (Messrs. Richards and Co.), London; and Thomas Pyke, Esq. (Messrs. Birley, Smith, and Co.), London. The letters of allotment were posted this (Friday) evening.

South African Gold Mines are at present receiving considerable attention from promoters, and several new concerns are nearly ready to be introduced to the public. Great confidence is felt that they can be shown to be worthy the attention of capitalists.

New Kitty, 2 to 2½; these shares are reported to have been in demand, in consequence of the improved appearance of the mine at Thomas's shaft. It is confidently believed that as a result of the energetic and judicious development of the property success will eventually be secured.

Owen Yeare and Tregurtha Downs, 1 to 1½; it is reported that they have got down an adit shaft in the Tregurtha part of the property this week, and that a splendid lode is to be seen. Captain Prin has been instructed to try it for tin, two well proved lodes in the sett running rich in that metal. The managers report the 80-in. engine will be at work early in March, and anticipate easy work in sinking.

Phoenix United, 2½ to 3; the purser sends telegram to-day:—These mines continue very productive, with excellent prospects. The tin sold on Monday (45 tons) realised 54½, 15s. per ton.

South Darren, ½ to ¾; the directors' report prepared for presentation at the meeting on Monday shows that during the year ended Dec. 4 there have been sold 540 tons of silver-lead ore for 7783, 17s. 6d., against 445 tons for 64852, in the previous year, and 197 tons 7 cwt. of copper ore for 6907, 19s. 5d., against 188 tons 7 cwt., 2 qrs. for 6932, 12s. 8d., in the previous year. The average price realised for the lead ore sold in 1882 was 14½, 18s. 3d. per ton, as compared with 14, 11s. 5d. per ton in 1881; the average price of the copper ore sold in 1882 was 3½, 16s. per ton, as compared with 3½, 15s. 9d. per ton in 1881. The difference between the average price realised for both classes of ore is, therefore, so small as to be unimportant; but the directors regret to have to report, there has been no recovery in the price of lead or copper, and the rates now ruling are so low that but few lead or copper mines can be worked at a profit in this country. Sir Pryse still refuses to concede any reduction of dues, and for this and other reasons the directors cannot recommend any further expenditure of capital on additional machinery that is not urgently required.

Trevaunance, 2½ to 2¾; the progress of this concern is considered satisfactory. It appears that the mine is now making excellent returns, and it is added that the management being the same as at West Kitty, the same line of action will be observed.

Wheal Coates, ½ to ¾; it is remarked that the mine is thoroughly equipped with machinery, including admirable stamping and dressing appliances, and three engines.

California Gold (of Colorado), 1 to 1 1½; The weeks mill run, as reported by telegram on Thursday, was 270 tons, the net proceeds amounting to 5802, and the smelting ore sales realising 1002.

Colorado United, 1½ to 2; it is rumoured that in consequence of a statement issued by the company's late agent a requisition demanding the resignation of those in office has been signed by the holders of over 8000 shares.

Henriett, ½ to ¾ pm.; the directors have declared a dividend of 2 per cent. upon the capital of the company, payable on Feb. 1. A telegram from the manager (Jan. 20) says:—Ore extracted and forwarded to the mill during the week, 305 tons; sold 305 tons for 5402. The manager (Jan. 8) reports:—The lode in the main incline is about the same as last reported, being 2 ft. thick and of the same value for silver and lead. No. 14 drift north has been driven 8 ft. in a lode 2½ feet thick. Cross-cut No. 1 has been advanced 28 ft., the lode averaging about 20 in. in thickness. We have been preparing to work the upper vein by cutting out the cribbing and commencing a drift north. The prospects are so far very encouraging.

Kohinoor and Donaldson, 1 1½ to 1½; the resident director writes that the Champion Mine will yield its expected output as soon as the enlargement of the shaft is completed and the new plant is in running order, and that the new hoisting engine is of 50-horse power.

Oganos Gold, 2½ to 2¾; the shares are reported to be firmer, a favourable view being taken of the report received on Thursday, and a copy of which, together with a letter from the secretary, will be found in their proper place. As the secretary remarks, the mine seems now to have come within measurable distance of success.

Orita Gold, 1 5½ to 1 7½; considerable dealings are reported to have taken place at steadily improving prices. The report just received from the adjoining property shows that a profit of 7002 has been made for the last month's working, though the washing of paying gravel had not been carried on during the entire month. The operations of the adjoining mine are, it is remarked, only one-seventh the size of those which will be carried on by the Orita Company so soon as the pipes, &c., are completed.

Potosi, ½ to ¾; a letter from Mr. Ch. de Lemos (Dec. 20) states that the work at Peru Mine, &c., has been progressing. The derrick at Attwood shaft is up, and the winding-engines are being erected. Considerable progress has been made with the water-line from Pozo del Dante, and the boiler at this shaft will be in place to-day. The levelling of mill site is well advanced. Nearly all the timbers for mill-shed are prepared, and the first posts were put in yesterday. This building ought to be finished within a month from date. Nearly all the heavy timbers and motor blocks, &c., are on the spot, ready and squared for use. The Attwood shaft has been making much water lately, by which, however, part is from surface, increased by the heavy rains of the last few weeks. Some different pumping arrangements will have to be made shortly. The lode at the bottom is about 2 ft. 6 in. to 3 ft. wide, and produces some very fine rock, with plenty of visible gold.

Richmond, 6½ to 7; the week's run was \$11,000, from 302 tons of ore from No. 4 furnace. During the week the refinery produced dore bars to the value of \$10,000. The superintendent's weekly report (Jan. 1) upon the prospecting and dead work states that the 100 station on south side of shaft is progressing favourably, in shale. The 300 south-east drift from south-west drift has been extended 23 ft. Total 174 ft. In hard favourable limestone. The 300 rise over south-east drift has been risen 30 ft. Total 60 ft. In low grade ore and limestone following on open fissure. The 700 east drift from above has been run 11 ft. on indications for ore, in hard limestone. The 700 rise from south-west drift (from east drift) has been run 20 ft. in limestone, on fissure, favourable. The 1050 north-west drift from station has been extended 23 ft. Total 156 ft. In favourable limestone. The 1050 north-east drift from north-west drift has been run 20 ft. Total 76 ft. In crushed limestone.

Ruby and Dunderberg, 1½ to 1½; the weekly report advises good progress in the development of the ore body at the Home Ticket Mine, the drift at the bottom of the shaft having been advanced 10 ft. in ore during the week, and is increasing in size as they go down; the shipments of ore from this mine were 30 tons, and, it is said, have been much larger, but the weather had been unfavourable. 60 tons remained at the mine waiting shipment. A further report has been received from Mr. E. Rickard, who writes very encouragingly regarding this ore body.

East Wheal Rose are reported to have advanced ½. As was expected, buying has been resumed in these shares—they are scarce—buyers coming forward much more freely on the improved prospects of the mine and the commencement of sales.

Mount Bay shares have been neglected for some time, but now that the stamps are constantly going, attention has been directed to them; several investors who have just returned from a careful inspection of the mine, have been buying.

From Mount Carbis some tinstone sampled this week produced 17 cwt. of black tin per ton of tinstone. This rich stuff came from the 50 end west, where the lode is very large, no wall being carried in the level, which is being driven 6 ft. wide.

Old Shepherds shares have advanced ½, on the placing of several large options for forward delivery. It is also stated that several good buying orders have come forward from Cornwall.

Tresavean shares, as was generally expected, have maintained their price. The future is considered bright, as the tin just sold realised a much higher price than the average, and an increased output, now that another 12 heads of stamps are set to work, is assured.

From West Vor and Leeds it is reported that an assay of portions of the Soss lode, which is 4 ft. wide, produced 56 lbs. of tin to the ton of stuff, thus showing every appearance of becoming as rich as the same lode in the Old Vor Company at the same depth, which was valued at 3002 per fathom, the characteristics, in every respect, being precisely the same.

From Mr. William Abbott's (Tokenhouse-yard) usual comparison

of balance-sheets, embracing those of ten of the chief London banks, it appears that their total working resources are 994,0002,

less than at the end of June last, allowing for an increase of 1,442,0002, in paid-up capital on the one side, and decreases of 1,737,0002, in deposits and 649,0002, in acceptances on the other.

Net profits altogether show a decrease of 70,0702, compared with the previous half-year. The table will be more fully referred to in next week's Journal.

The Railway Share Trust directors' report for the meeting on Tuesday next embodies accounts showing that the net cash earnings of 1882, after deducting current expenses, interest on preference Share and income tax, amount to 32,183, 10s. 3d. This result is satisfactory when it is considered that the year 1882 has been throughout very unfavourable for financial operations. The balance from last year was 13,876, 4s. 4d., making the total at the credit of the revenue account 46,0502, 14s. 7d. Of this, 12,5002, has been already distributed as interim interest. The valuation of the company's securities shows a decreased value of 33,782, 7s. 11d. on Jan. 15, as compared with the same date, 1882, which being written off the reserve, reduces it to 58,717, 12s. 1d. The directors propose to pay at the rate of 5 per cent. for the half year, with a bonus of 1 per cent. for the year, making, with the 5 per cent. paid on account in July, a total distribution of 6 per cent. on the ordinary share capital of the year, leaving 16,0502, 14s. 7d. to carry forward.

The Railway Debenture Trust Company directors' report for the meeting on Tuesday submits accounts showing that the net cash earnings of 1882, after deducting current expenses, interest on the company's own debentures, and income tax, amount to 40,893, 2s. 4d., out of which 57822 has been applied as a sinking fund in redemption of the company's own debentures. The balance from last year was 61,012, 17s. 11d., making the total amount at the credit of revenue account 41,213, 0s. 3d. Of this, 15,0002, has been already distributed as interim interest, leaving 28,213, 0s. 3d., out of which the directors recommend a dividend at the rate of 6 per cent. per annum, and a bonus of 1 per cent. for the year, amounting together to 23,0002, and making the total distribution on the share capital for the year at the rate of 7 per cent. This leaves a balance of 62,133, 0s. 3d., or 34,633, 0s. 3d., after deducting the directors' percentage. The reserve fund will now stand at 117,447, 16s. 3d.

The Bank of Egypt directors' report for the meeting on Feb. 13 shows that the net profits for the year, after providing for bad and doubtful debts, rebate of interest, current expenses in London and Egypt, income-tax, &c., amount to 20,607, 14s. This, added to 35317, 14s. 6d., the balance of undivided profits brought forward, makes 24,139, 8s. 6d. available for appropriation. The directors recommend a dividend of 8 per cent. for the year (20,0002), free of income-tax, leaving a balance of 4139, 8s. 6d. to be carried forward. The dividend will be payable on Feb. 14.

Mr. Lazare Weiller, of Angouleme, the electrical engineer and inventor of silicon bronze has joined the board of the Phosphor Bronze Company, Southwark.

The Hallidie Patent Cable Tramways Corporation have sent out their letters of allotment.

There are no "placers" in the Transvaal, and a correspondent who knows the country, replying to "Argus" in last week's Journal, suggested that our Kimberley correspondent probably wrote "places" as a reference to his manuscript proves that this was the fact.

The Queensland National Bank have advised from the head office of the department, at Brisbane, of a dividend at the rate of 12 per cent. per annum for the half-year ended Dec. 31, 15,0002, being placed to reserve and 66602 carried forward.

The Lima Railways Company traffic returns for October show at the current rate of exchange a gross receipt of 31582, against 29432, in the previous year, and for the 10 months 23,552, against 18,8452, or an increase of 4112.

The GREAT HOLWAY MINE is being worked with great enterprise and in addition to the steady yield of lead and blonde at present obtained, it is fully believed that in a short time there will be a considerable increase. The ore raised this month at Holway is the largest on record for many years, and we heartily wish it may go on increasing.—*Flintshire Observer*, Jan. 25.

BRATSBERG.—The cargoes of copper ore by the Mary Owen and Dizzy have realised about 41002, and the cargo by John Evans is being discharged and sampled. This is expected to be of higher quality than previous cargoes, as it includes 100 tons of prill ore, and the whole is said to be dressed up to a better percentage. A telegram has been received to the effect that the ore sold at Newcastle has left Skien in the steamer yesterday.

MOUNTS BAY CONSOLS.—It is understood that the calciner will be completed in about a fortnight, and the burning of tin will commence forthwith, so that good sales may be expected to take place at an early date. At the Trebarvah sett another parcel of copper is being made ready for the mid-February sampling. The lode at Pembrokeshire, according to appearances, is within about 2 fathoms from the present end, and may be expected to be cut shortly. It is stated that the various points at Sydney level are looking well, and that tinstuff in almost any quantity is forthcoming for the stamps.

A NEW COPPER SUPPLY—BRADA MINE.—From Brada (Isle of Man) we learn that the first cargo of copper ore from this extensive property sailed on Thursday in the Bessy, consigned to Messrs. Bath and Sons, of Swansea. The shares were last quoted 32. 10½, and this company hope soon to be in the Dividend List.

TANKERVILLE GREAT CONSOLS.—Tankerville Mine is opening new ore ground at different places. The stopes in the 80 west, on Warm Water lode, at Pennerley, are worth together 9½ tons per fm. At Bog, the lode in the shaft is 6 to 7 ft. wide, containing rich solid stones of lead ore and blonde. There are 13 tribute pitches, worth together 3½ tons of lead ore and 7½ tons of blonde per fathom. They have sampled 70 tons of blonde.

EAST WHEAL ROSE.—The first sales here have been made this week—50 tons of lead and 100 tons of blonde. All the stopes are, it appears, improving, and especially Middleton's lode. As depth is gained it is fully expected the lodes will continue to improve, as they did throughout the former workings, which in the deepest parts were reported to be worth from 10 to 20 tons of lead per fathom.

TRESAVEAN.—The first parcel of black tin has been sold from this mine, and has realised a high price, 58½, 2s. 6d. per ton, which is several pounds above any in the district. From reports to hand it appears that another 12 heads of stamps were started yesterday, that Caddy's lode is improving in value, and that the same lode has been cut into on the south side, proving to be worth 162 per fathom. It is also stated that the choke on Williams' shaft is now clear, that ladders are being put in, and it is expected that several important copper pitches will be available very shortly. The water is forked below the 60, and the engine is working well.

CATHEDRAL CONSOLS.—This mine improves. The 62 east has gone forward for some time in ground yielding copper, in parts in paying quantities, and from the bottom of the end—yielding some beautiful grey copper—water is boiling up, indicating a good lode beneath. The 74 is started under, and as it advances will drain the level above, and doubtless go forward in ore ground, opening up a good paying mine.

OLD SHEPHERDS.—It is announced that a most important discovery has just been made at this mine. It may be remembered that a lode was cut some six weeks since, which proved to be 26 ft. wide; this was found very rich from adit to the 34 fm. level, and is now also proved equally so at the 44. There appears to be no doubt in the minds of the agents that it remains whole to the bottom (the 120). But the most important part of this week's information is that at the 34 they have cut into the junction of the main and counter lodes, and here there is what is described as a bonanza, it being an immense mass of silver-lead stuff, which, of itself, is considered sufficient to make large returns for a considerable time. It

is understood that there is some excitement in the county over this remarkable discovery, and that shares are being freely purchased. The first parcel of lead was sold this week, and it is intended to make regular monthly sales henceforth.

C. PASS AND SON, BRISTOL.

ARE BUYERS OF

LEAD ASHES, SULPHATE OF LEAD, LEAD SLAGS, ANTIMONIAL LEAD, COPPER MATTE, TIN ASHES, &c., and DROSS or ORES containing COPPER, LEAD, AND ANTIMONY.

MANSON, WOODS, AND CARTER, AMERICAN MINING AND FINANCE AGENTS.

Commissions undertaken personally or by letter. Titles advised on, and certified abstracts obtained. Securities registered, and Dividends collected.

SPECIAL BUSINESS IN FIRST-CLASS MORTGAGE BONDS. Particulars on application.

BANKERS: LONDON AND COUNTY. OFFICES: 36, KING WILLIAM STREET, CITY. Agents for the New York "Mining Record."

GEO. G. BLACKWELL, 26, CHAPEL STREET, LIVERPOOL, HANDLES MANGANESE, BARYTES, SPARS, and all ORES, ON SALE OR PURCHASE.

EDGAR JACKSON,

(Associate Royal School Mines),

ANALYST AND ASSAYER, Assays or Complete Analyses made of Copper, Silver, Lead, Zinc, Tin, and other Ores. ASSAYING TAUGHT.

106, QUEEN VICTORIA STREET, LONDON, E.C.

ROBERT C. FISHER AND SON, GENERAL, CONSULTING, AND MINING ENGINEERS SWANSEA, REPORT ON MINERAL PROPERTIES AND MINES, ADVISE ON ALL QUESTIONS OF THE WORKING AND MANAGEMENT OF MINES.

FREDERIC F. CHISOLM, CONSULTING MINING ENGINEER & FINANCIAL AGENT, P.O. Box 2238. DENVER, COLORADO.

A Speciality made of care of Mining Property for non-resident Owners, and the General Management of Property for Foreign Mining Companies. REFERENCES FURNISHED IF DESIRED.

NICKEL MINE IN NORWAY.

ONE-HALF of a GOOD NICKEL MINE, in Odde Hardanger, now working, TO BE SOLD on reasonable terms.

Particulars will be forwarded on application to Hehr HANSEN, Smorsalminding, Bergen, Norway.

Telegraphic Address: HANSEN, Smorsalminding, Bergen.

THE NEW BRITISH IRON COMPANY want a MANAGER for their EXTENSIVE IRONWORKS and COLLIERIES at CORNGRAVES, near BIRMINGHAM. It is indispensably necessary that he be well acquainted with Underground Operations, and understand practically the Manufacture in all the branches of the trade from the Raw Material to Finished Iron, which consists of Bar, Hoop, Sheet, Plate, Sash, Angle, and other iron.

PLATT'S ESSAYS.

LIBRARY EDITION.—Just published, by SIMPKIN, MARSHALL AND CO., 4, Stationers' Hall-court, E.C.

By JAMES PLATT.

Revised, re-arranged, and added to, with Photograph and Autobiography of the Author.

Royal 8vo., 528 pages, cloth gilt, 6s., post free.

PLATT'S ESSAYS.—VOL. I.—BUSINESS, MONEY, ECONOMY.

CONTENTS.

BUSINESS.—Business—Health—Food—Recreation—Education—Technical Education—Industry—Perseverance—Arrangement—Punctuality—Calculation—Prudence—Tact—Truthfulness—Integrity.

MONEY.—Money—The Origin of Money—What is Money?—Currency—Gold Money—Silver Money—Bi-Metallism—Paper Money, Bank Notes, Cheques—Bills of Exchange—Bank Shares—Banking—Exchange—Interest—Rent.

ECONOMY.—Thrift—Capital—Wealth—Panics—Economy—Divine Economy—National Economy—Political Economy—Taxation—Individual Success—National Prosperity—Concluding Remarks.

COMMERCE is guided by law as inflexible as those of health, of gravitation, and the primary cause of failure in business may be traced as unerringly as the punishment that will surely follow the infringement of any other law of Nature. Granted a natural aptitude, or not a dislike, to the business selected by the parents, the measure of success will depend on steady application, on first entering upon the duties of life, in mastering the details; as, after a while, when you have to perform duties allotted to you, the time for action has come, and the opportunities for observation are gone. You can induce this kind of conduct only by impressing on every youth entering life that he must be the architect of his own fortune. This is the best stimulant for him to apply to his vocation with energy and determination to succeed. As a rule, it does not matter much what a youth is put to, only allow no vacillation—first trying this thing, then another. The exceptional few who have shown any marked inclination for a particular business or mode of life should not be thwarted. What a man can do easiest, naturally, and from liking he is most likely to succeed at. But teach all that in commerce there is no royal road to the knowledge required, no prompting, coaching, or copying there, and impress on them that every man who fails has expected impossibilities, or gone the wrong way about obtaining what he desired. (P. 22.)

PLATT'S ESSAYS.—Should be read by everyone.

PLATT'S ESSAYS.—Should be well studied by manufacturers.

PLATT'S ESSAYS.—Should be carefully read by every tradesman.

PLATT'S ESSAYS.—Should be in every commercial school.

PLATT'S ESSAYS.—Should be in every tradesman's library.

PLATT'S ESSAYS form a useful gift, school prize, or present to anyone commencing life.

THERE CAN BE NO MORE PERFECTLY WRETCHED CREATURE in existence than the man who is conscious that he has failed in the business of his life through his own folly. Failure! It is horrible to contemplate—must not be thought of. The General who, upon bearing the enemy is advancing, does nothing but prepare for a retreat will inevitably be defeated. Not only in the army, in politics, at the Bar, in commerce—aye, in every walk of life, to think only of defeat is to insure it, as to dread a disease is the most certain way to catch it. To prevent failure, to insure success, away with doubts and fears. Remember, you are a player in the great game of life; it is a game which, to be succeeded at, needs great skill. The way to win is never to think of yourself on the result—success or failure; but to concentrate every faculty you possess upon the game itself, and let your plans be those best adapted for effecting the defeat of your opponents. You will fail if you believe in fate or chance, or have not learned that in your work, in the daily struggle with your fellows, there can be no distinction save that of a better cultured brain, a clearer intellect, to observe correctly, and think logically and equitably, or the aptitude and skill to do larger quantity, or produce work of a better quality than your fellow men. (P. 527.)

PLATT'S ESSAYS.—VOL. I.—BUSINESS, MONEY, ECONOMY. Six Shillings.

BUSINESS.—208 pages, cloth 8vo. One Shilling.

MORALITY.—208 pages, cloth 8vo. One Shilling.

MONEY.—208 pages, cloth 8vo. One Shilling.

LIFE.—208 pages, cloth 8vo. One Shilling.

ECONOMY.—208 pages, cloth 8vo. One Shilling.

PROGRESS.—208 pages, cloth 8vo. One Shilling.

M. R. PLATT, 77, ST. MARTIN'S LANE, W.C., Will send Volume of his REVISED ESSAYS, post free, on receipt of Six Shillings; or either of his Shilling Books—Business, Morality, Money, Life, Economy, Progress—post free on receipt of One Shilling.

NOTICES TO CORRESPONDENTS

FOREIGN SUBSCRIBERS.—When remittances are made by international post—order—the best and cheapest mode of remitting—from countries where the Post Office authorities undertake the transmission (Germany, Belgium, the Netherlands, Egypt, &c.) subscribers and advertisers should send Post-card with their initials, the amount remitted, and the town; as when we know only that 1*l.* 8*s.*, or any other sum, has been sent from Germany or Egypt, for example, it is impossible to know whom to credit.

RE-SALE OF PURCHASED SHARES.—"J. T. S." (Newcastle-on-Tyne).—If you have purchased shares in an established company and desire to sell them again before the certificate of transfer has been delivered to you there is nothing to prevent you doing so. You will be liable to the person to whom you sell, should you be unable to deliver, but will of course have a ground of action against the person who has failed to deliver to you; it is therefore safer to obtain the certificate of transfer to yourself before re-selling.

RECEIVED.—The Maxim-Weston Electric Company—"J. H." (N. B.) had better apply to the broker through whom the shares were purchased—"J. W." (Hayle)—"L. S."—"Constant Reader" (Callington)—"T. O."—"V. D." (Australasian Mines)—"G. P."—"H. V."—"J. T. S."—"H. C. S."—"T. P." (Roche)—John Lean (Minas Geraes)—"Fiat Justitia" (Hydraulic Mining)—"Constant Reader" (Paris).

THE MINING JOURNAL, RAILWAY AND COMMERCIAL GAZETTE.

LONDON, JANUARY 27, 1883.

THE PRODUCTS OF WASTE SALTS.

The utilising of waste salts, or leach brine, which for several years has been extensively carried on in Germany, is now being introduced into this country on a large scale. The primary substances called "refuse salts" in some places form the roof of the deposits of rock salts, and owe their origin to a natural process, similar to that by means of which some of the early chemists prepared the leach brine of saltworks. The chief constituents of waste salts are carnalite and kieserite, and are found in alternate layers with rock salt more or less pure. Adjoining them, as secondary formations, are kainite and sylvine (chloride of potassium), the former in thick strata, and the latter in pockets and nuggets. It is upwards of 20 years since the refuse salts were first worked in a Prussian mine, although the properties were known before that time. The first manufactory where the refuse salts were first treated for chloride of potassium and potash manures was established by Dr. FRANCK, and since then they have rapidly extended. When the first works were established the price of chloride of potassium was from 7 to 8 thalers per centner, now it is little more than 2 thalers. But one of the most valuable products from the salt is bromine, which before the extraction of it was taken in hand by Dr. FRANCK was only employed for scientific purposes, when it cost from 16 to 18 thalers per kilogramme; but it has now become an important and accessible article of medicine, although still in the hands of one or two houses, the price being about 3 thalers. The process of extracting the bromine is an interesting one. Sulphuric acid is used in the distillation of the waste salts, as well as black oxide of manganese. The still is generally made of a sandstone, with a lid which is held down by its own weight. There is a funnel attached to the lid, and there are pipes for charging the still and for the escape of the bromine vapour, there being a plugged hole at the bottom of the still for running off the residue. The stills vary a good deal in size, some of them holding as much as 500 gallons, and the heat is applied by a steam jet, which goes directly into the still, by which the mixture is thoroughly agitated. At some places the salts are put in quite hot as leaves the evaporating kettles, when a small quantity of sulphuric acid diluted with water is added; then the steam is put on, and the oxide of manganese is introduced in small quantities.

The receiver consists of a wide-mouthed glass bottle, and the uncondensed vapour is carried off by means of a pipe, and is formed into a solution of caustic soda. When bromine has been washed with water it is then ready, and is put into bottles for transportation. The spent liquor left in the stills is neutralised by the means of lime, which precipitates the iron in the manganese, and this being evaporated leaves a solution which is sold as crude chloride of calcium, which is used for many purposes, and meets with a ready sale. It easily solidifies, and has been used in making an artificial patent stone. In Germany in particular great care and attention has been devoted in separating the different compounds that are met with in the waste salts (abraumsalze), as well as the transformation of chloride of potassium into potash. The potash manufacture appears to be the origin of the introduction of many of the products of the waste salts, and it has been found that the grease found in the former, provided that potash and nitrogen are present at the same time, can be utilised with advantage in the formation of the cyanides (yellow prussiate of potash). In addition to the chemicals named, there are many others that are obtained from the same base, and these include sulphate of soda (Glauber's salts), obtained by double decomposition at low temperature of sulphate of magnesium and chloride of sodium; boracic acid, sulphate of magnesia, &c.

These few facts will show what valuable products are obtained from the refuse salts, an industry which has been cultivated on a large scale in Germany, but which is also now making increased progress in this country.

GOLD AMALGAMATION.

A combined amalgamating and concentrating machine has been designed by Mr. Frederick Kensington, of Preston, Lancashire, for a Hungarian mine, which appears well worthy the attention of those interested in the management of public companies. A short description of the apparatus will prove interesting to all those engaged in gold mining. It is a regrettable fact that practical information is very difficult to obtain regarding the processes in use in arresting the particles of gold when disengaged from the matrix. Until the publication of Mr. Lock's celebrated book it was almost impossible to buy a book from which any information could be had; indeed, publications containing even an elementary amount of gold saving processes are scarce. Though gold mining—that is, mining from quartz as distinguished from hydraulicising—has within the past few years come more prominently to the front, the method of treating the stone does not appear to have made much scientific progress, mercury plates, mercury troughs, long or short blanket tables, &c., and where much pyrites is present a second and even a third and fourth process before these can be treated appear to be the "groove" in which the generality of gold mining demagogues' ideas have "halted" when erecting their machinery for amalgamation, the machine to which we now refer is designed to obviate the necessity for long tables, and mechanical means are employed to assist the separation by gravitation. The crushed materials pass through a set of three pans, fitted with two sets of annular mercury troughs each. The flow of water and crushed ore into the second and third pan is checked by an arrangement of the communicating pipes, which causes an overflow of the lighter portion from all three. Through the centre of these pans is a vertical spindle, upon which is fitted circular cups inverted, and which revolving causes the crushed matter and gold to be distributed over the mercury troughs, while at the same time they prevent the machine choking. By the motion imparted to the water the heavier portions of the tailings are concentrated, while the lighter flow away. In each pan is fitted an inner skin or jacket, by which means any light stuff that may have been carried below the first trough can ascend and find its way to the overflow, the motion of the lower cups preventing it again settling.

The material now issuing from the lower pan having been freed from the free gold by the annular troughs, and the slimes (and, perhaps, some float gold), having passed off in the overflows, is now discharged on to a circular table or bundle, in which there is a contrivance to catch any mercury which may have been washed out. This table is fitted with a spreader and scraper, which answers a twofold purpose—to keep the table clear, so as not to impede the

mercury-saving arrangement, and also to collect and discharge the valuable part (pyrites) into the settling box, while the lighter part of the same passes to a separate receiver. The overflow is treated by passing through one of Mr. Kensington's amalgamators, particulars of which appeared in the *Mining Journal* of the 13th inst.

Perhaps not the least valuable part of the whole design is the machine by which the pyrites is thoroughly freed from the worthless matter, and which consists of a globular pan with suitable hoppers, in which there is a revolving stirrer, which causes a vortex. The aperture through which the concentrated material passes is closed by a lever and opened at certain intervals of time, allowing the heavier portion to pass out, while the lighter is washed away in the overflow. The machine may not be perfect in every respect, but it may be regarded as a step in the right direction, and it is hoped that it will excite emulation among those who are interested in gold mining.

THE ELECTRO-AMALGAMATOR FOR GOLD AND SILVER ORES.

The more profitable extraction of gold and silver from their ores, a matter in which so many persons are interested that every invention whose object is to make the extraction of the precious metals from their ores more remunerative naturally commands attention. Amongst recent inventions of this class that of Mr. Richard Barker, M.E., F.G.S., has attracted considerable interest, and the fact of the Electro-Amalgamator Company, which has been formed to develop it, having held its statutory meeting yesterday—the report will be found in another column—shows that progress is really being made. The board have built a machine which will be in practical operation in the course of a few days, which will treat a large amount of quartz, and is worked by a dynamo machine with perfect success. They have also purchased and erected crushing machinery, and are now in a position to crush and amalgamate the ores of any company who find that they cannot obtain a satisfactory percentage of the assay value. It has already been explained in the *Mining Journal* that Mr. Barker provides a table, insulated or not, in which he places two or more rifles, or baths containing mercury, at convenient distances from one another, and fitted or not with the ordinary agitator. Over this table the quartz alluvial deposit, or other matter containing gold, silver, or both these metals, is washed by the ordinary method. A current of electricity is then passed through the apparatus, by one or more suitable conductors, in the following manner. The negative pole (or cathode) of the battery, or other source of electricity, is connected with the mercury in the rifles, and the positive pole (or anode) is introduced into the water, immediately above the mercury, and sufficiently close to it, to cause an energetic action, the electric current being allowed to pass through the water, by placing it in, at convenient distances, plates or wires of copper, or other good conductors of electricity.

One of the chief merits claimed for the electro-amalgamator is that the electricity as applied keeps the surface of the mercury bright, lively, and equally capable of readily seizing upon gold as pure mercury long after the limit of saturation under ordinary circumstances has been reached. This property, it is pointed out, renders the invention of almost imperative necessity, not only to those mine proprietors whose quartz is refractory, but also where the gold is principally free, effecting as it does a large saving in mercury and a corresponding saving in the fact of a less frequent necessity for retorting. Another of the chief merits claimed is an increase of contact between the gold and silver (especially the latter), and the mercury. By electric action the gold and silver are driven to the negative pole, and as the negative pole is the mercury itself, which is kept in a perfect state for amalgamation by means of the electricity, it is obvious that the natural gravitation of the gold and silver is assisted by the attraction of the electric force as to allow but few, if any, of the particles to escape. The directors have ascertained that the invention will be applicable to the gold and silver ores of almost every country, and that it bids fair to vastly increase the gold-producing capabilities of the world.

COST-BOOK SYSTEM—RIGHTS OF RELINQUISHING SHAREHOLDERS.

The enormous risks undertaken by capitalists connecting themselves with Cost-book concerns has frequently been stated in the *Journal*; but the decision of the Appeal Court, High Court of Justice, on Monday, places relinquishing shareholders in such a vastly improved condition that at least one powerful argument against the Cost-book System will cease to have force—the relinquishing shareholder must henceforth be given his fair share of the balance of assets over liabilities at the date of relinquishment. Hitherto the practice has been, whatever may be the correct principle theoretically, to call upon the relinquishing shareholder for his share of liabilities, but to neglect to give him his proportion of the assets. The case in question came before the Master of the Rolls and Lords Justices Lindley and Bowen, on the appeal of Mr. H. W. Clarke from the decision of the Vice-Warden of the Stannaries in the matter of the winding-up of the Frank Mills Mining Company. It was stated that the Frank Mills Mining Company had been wound-up in the Stannaries Court, and the question arising upon this appeal was of a somewhat novel character; it was not a question between the appellant and any creditors of the company, but between the appellant, who was a former member of the company, and the present members of the company, the assets of the company, including the call that was made, being sufficient for the payment of all the debts of the company and a return of 6*l.* per share.

The Frank Mills Mines, being within the Stannaries, was carried on as an ordinary Cost-book company, and the question involved in this appeal was, whether upon the relinquishment of his shares by the appellant an account ought to be taken, as between him and all the other then existing members of the company, without regard to the fact whether they were solvent or not at the time, or whether an account ought to be taken between him and only such members of the company who were solvent at the time of the winding up. The company was ordered to be wound-up in March, 1880. When the appellant gave notice of his relinquishment there were 1279 shareholders. The accounts ought to have been made up in Nov. 1881, but no account was taken until April, 1882, and then it was taken by the liquidator. The liquidator found that many of the shareholders were not solvent persons—in fact, he deducted from the 1279 shareholders 678 as insolvent, adjudicating that the liabilities of the concern should be divided between the remaining 601 shareholders. The appeal was brought to ascertain whether the liquidator was justified in so doing. It had been found the accounts were so wrong that there was an undisputed balance in favour of the appellant of 315*l.* 6*s.* 2*d.* In fact, if the accounts were properly taken there would be nothing, or something very small, due from Mr. Clarke to the company. This was not a question between the creditors and the appellant; the creditors had been fully paid; but the only question was whether the continuing partners—those who chose to go on with the business, those who accepted the relinquishment without dispute—should do so at their own risk, and not at that of Mr. Clarke. Under all the circumstances, Mr. Higgins, Q.C., for the appellant, submitted that the Vice-Warden's order ought to be reversed.

There appeared to be really no dispute about the leading facts, but there was no direct evidence as to the value of the assets at the date of the relinquishment. It was urged by Mr. Whiteborne, Q.C., on behalf of the respondents that they had it proved and not contradicted, that on Sept. 2, 1878, Capt. Thomas valued the plant at 190*l.* as a going concern; that on Nov. 21, 1879, Capt. Clemon valued it at 1714*l.* 12*s.*, which amount had been adopted by the liquidator; and that by the purser's evidence there was some of that plant still underground, and indeed under water, so that it had become absolutely valueless.—The Master of the Rolls said there was no doubt that the matter must go back, so that it would be best for them to take a direction for a balance-sheet to be made out showing the assets and liabilities of the company at the time the relinquishment took place.—Mr. Whiteborne said that if the Court were of this opinion with respect to the accounts he would not trouble them as to the

nor points.—The Master of the Rolls, in giving judgment, considered, and the Lords Justices concurred, that the purser had blundered in making out the accounts. It was quite obvious that the company had not allowed for the sums received from some of the solvent shareholders, and they had not taken account of the solvency of the shareholders at the time of the relinquishment. The principle to ascertain what was the share to be paid by the retiring member was to have regard to the solvency or insolvency of the shareholders at the time of the relinquishment. The question of costs was reserved to be settled by the Vice-Warden.

MACHINERY IN THE STAFFORDSHIRE COAL MINES.

Machinery for underground use of a higher class than has been employed before is now being adopted in South Staffordshire. There has been introduced at the Cannock and Rugeley Collieries, Huddersfield, an air locomotive that gives very satisfactory results. The engine is one of Lishmary and Young's, and has been made by the Orange Iron Company, near Durham. It has a pair of 44-in. cylinders, with 8-in. stroke, and is fitted with all the working parts of an ordinary steam locomotive. The receiver (the substitute for the boiler) is 6 ft. 6 in. long by 3 ft. 6 in. diameter, and is made of Siemens' steel plates. The engine is now working at a pressure of 300 lbs. to the square inch, but will stand a pressure of 500 lbs. It is situated at a distance of 1200 yards from the bottom of the shaft. It goes into the stalls and brings the coal direct from the face of work, a distance of 250 yards, delivering it to a station at the bottom of a trough fault. At this point a hauling rope takes hold of the different trains, and draws them up to where the main hauling engine takes them to the shaft. This main engine is situated on the surface. It has a 32-in. cylinder, and besides hauling it compresses the air necessary for the smaller air locomotive. The air cylinder of the main engine is 20 in. diameter, with 5-ft. stroke, and the air is compressed to 65 lbs. per square inch. The air at this density is conveyed down the shaft in large receivers, and is taken along the mine for a distance of 850 yards. Here a pair of 12-in. cylinder engines work a 5-in. compressor, and further compress the air up to 300 lbs. per square inch. It is then fed into a small receiver, and is taken to a point at which the air locomotive can be charged—an occupation that only occupies half a minute.

INSTITUTION OF MECHANICAL ENGINEERS.

The annual general meeting of members—the 36th—was held in the theatre of the Institution of Civil Engineers, on Thursday and yesterday evening. The president, Mr. Percy Westmacott, congratulated the shareholders that the institution was in a sound and prosperous condition, and that the past year had been a most successful one. The substantial progress they were making was due, perhaps, in some degree to the greater breadth they were giving to their labours, especially in the department of experimental research into vexed and shadowy regions of mechanical and scientific matters of importance to engineers. In these experiments they had been fortunate to enlist the assistance of several eminent gentlemen. He pointed out that experiments were the very lifeblood of engineering, and without them progress would be slow and uncertain. With regard to the summer meetings, which had always been a very agreeable feature in connection with membership of the institution, he was glad to be able to tell them that they had received a very cordial invitation for the present year from their friends in Belgium, and that the council on behalf of the institution had accepted it.

Mr. W. R. BROWNE, the secretary, then read the annual report of the Council, which stated that at the end of 1882 the total number of names of members of all classes on the roll of the institution was 1370, as compared with 1276 tons at the corresponding period of the previous year. This effective increase of 94 was the largest ever recorded in the annals of the institution, while the number of elections was also much larger than in any previous year. The accounts showed that the receipts for the year had been 4660L 9s. 2d., while the expenditure had been 3748L 12s. 5d., showing a balance of receipts over expenditure of 911L 16s. 9d. The capital of the institution at the end of the year was 14,528L 7s. 5d. The three committees on experimental research had all been pursuing their investigations during the past year. With regard to the hardening, tempering, and annealing of steel, the important investigation commenced by Prof. Abel, C.B., F.R.S., had not been brought to a conclusion; but he had been able to prepare an interim report for the meeting. It would be followed by an interesting communication by Prof. Hughes, F.R.S., on "The Molecular Rigidity of Tempered Steel," which went to confirm Prof. Abel's hypothesis.

With regard to riveted joints, Professor Kennedy carried out an important series of experiments on double-riveted joints, both lap and butt joints; but the report was withheld, pending the completion of similar experiments with hydraulic instead of hand riveting. With regard to the experiments on friction, which from various unavoidable causes had been considerably delayed, the committee were able to arrange during the past year for their being carried out by Mr. Beauchamp Tower, at the Edgware-road Works of the Metropolitan Railway, with a machine specially designed for the purpose, and constructed by Messrs. Easton and Anderson. Mr. Tower had drawn up a report on the first series of experiments, which were very extensive—comprising trials of several kinds of oil, with varying speeds, and varying pressures on the journals—beginning with moderate speeds and pressures. The council were now carrying out further experiments, with different speeds and pressures. They recommend that 300L be placed in their hands for further experimental research, if desirable, on subjects already undertaken, or such new subjects as the deterioration of iron from various causes, and the strength and durability of iron and steel when subjected to torsion.

It was announced that the names of Prof. Abel, C.B., and Prof. Hughes had been added to the list of honorary members. The reading and discussion of papers were then proceeded with, those first taken being Prof. Abel's "Report on Further Experiments bearing upon the question of the condition in which Carbon exists in Steel; and Prof. Hughes' paper 'On the Molecular Rigidity of Tempered Steel.' The several papers and discussions upon them will be referred to in a future Journal.

A PROSPEROUS PORT.—The Official Statistics of the Trade of the port of Swansea, for the year ended Dec. 31, have just been issued under the authority of the Harbour Trustees. In the autumn of 1881 new deep water docks for ocean-going steamers, erected at a cost of about 350,000L, were opened by their Royal Highnesses the Prince and Princess of Wales, and since that time, notwithstanding the almost unparalleled depression in the tin-plate trade and the great manufacturing industries of the district, there has been a considerable increase in the trade of the port, and the Harbour Trust have been enabled to pay the interest upon its whole debenture debt, and every other item of current expenditure. During the past year 5010 vessels, of an aggregate registered tonnage of 1,017,006 tons, cleared from the port; the shipping rates received therefrom amounting to 27,934L 17s. 8d., whilst during the previous year the number of vessels leaving the port was 4790, with an aggregate registered tonnage of 838,107 tons, and the shipping rates received were 23,362L 0s. 9d. The imports, which consisted principally of copper and iron ores, steel castings, and machinery, &c., also showed a considerable increase; for instance, the imports of copper and other ores for the past year were 139,441 tons, as against 125,459 tons in 1881; iron ores, 120,827 tons, as against 91,504 tons in 1881; iron, steel, castings, and machinery, 116,40 tons, as against 85,928 tons in 1881; the total imports being 669,318 tons, as against 623,115 tons in 1881. The exports were the largest in the previous history of the port; the exports of coal being no less than 1,217,756 tons, and of patent fuel 285,696 tons, considerable increases being manifested in other items of export. In the year 1881 the quantity of coal exported amounted to 1,008,133 tons of coal and 216,248 tons of patent fuel. The total import and export trade of the port for the past year was 2,889,417 tons, as against 1,064,825 tons in 1881. The total income of the harbour from every source for the past year was

79,696L 12s. 11d. The expenditure included 39,634L 0s. 4d. interest upon the bonded debt, current expenses (including dredging), 29,303L 18s. 2d., and 3009L 5s. 7d. extraordinary expenditure, leaving a profit upon the year of 7749L 8s. 10d., which was carried forward to the surplus fund, which now stands at 37,579L 15s. 4d. The increase in the shipping trade of the port has been far more than (proportionately) that of Cardiff, although the coal drops and other shipping facilities of the new deep water drops have not yet been brought into full operation. The great increase has been in large ocean-going steamers, for which the new docks have been especially constructed. Other important works in connection with this rapidly improving port are being vigorously pushed forward, more especially the Swansea Bay and Rhondda Valley railway scheme. The first cutting of this new line is now expected in the course of a few days, and when completed it will afford to Swansea that for which it has so long striven—direct and unbroken access with the vast steam coal fields of the Rhondda Valley. The Standing Orders Committee of the House of Commons have decided this week that the necessary forms have been duly complied with for the making the last connecting link—the crossing the Neath river, and when this work has been carried out, doubtless another epoch in the history of the coal trade of the port will take place.

THE COAL TRADE.—The colliery owners of Yorkshire have received a circular from the Yorkshire Miners' Association, signed by Mr. Benjamin Pickard, the secretary, requesting the employers to meet a deputation of the miners to mutually agree on the following questions:—That all pits shall be laid idle, except for repairs, every Saturday in each week, and that eight hours from bank to bank be worked on the remaining days worked in each week. "It is hoped," adds the circular, "that you will meet us and mutually consider and agree on the questions, since it is so necessary to do something to preserve the capital of the employers and the wages of the workmen." The employers in the Sheffield district will probably accede to the request for an interview, but they are opposed to the proposal. They say that a careful survey of the state of the coal trade in all parts of the country shows that the consumption and export of coal are so nearly approximating the possible output that to artificially restrict the output would be a most suicidal policy on the part of the coalowner. It would also, by artificially raising the price of coal, increase the cost of iron and steel, and place this country at a disadvantage as regards exports, as well as in its home industries, in every trade dependent upon the production of coal. In the inland counties, Yorkshire, Derbyshire, and Nottinghamshire, where such a large quantity of coal is raised for the London and other markets, the recent tendency to reduction in price is because more house coal is raised than such a mild winter requires. In regard to all other kinds of coal, however, the demand appears equivalent to the supply, and some classes of coal for manufacturing purposes are realising very considerably increased prices.

A REWARD FOR A PERFECT SAFETY-LAMP.—Mr. Ellis Lever, of Bowdon, Cheshire, has undertaken to hand over to the Central Board of the Miners' National Union the sum of 500L to be paid as a reward to any person, either in or out of the United Kingdom, who shall invent an electric or other safety-lamp satisfying certain conditions. The lamp must be perfectly portable and incapable under any circumstances of causing an explosion of gas. It is provided that the offer shall remain open throughout the current year, and that the adjudicators shall be composed of "three scientists, one to be selected by Mr. Lever, one by the Council of the Royal Society, and one by the Council of the Society of Arts, one person representing the mining engineers, chosen by themselves, and one person representing the workmen, chosen by the Central Board of the Miners' National Union." The above-mentioned reward is to be meanwhile invested in the names of three trustees, one of whom shall be Mr. Thomas Burt, M.P., the other two to be chosen by the Miners' National Union.

PETROLEUM.—An increasing number of steamboats are being worked by petroleum on the Black Sea. The petroleum industry of the Caspian Sea has been greatly developed during the last year, more than 5000 vessels having entered and left the little harbour of Baku employed in the petroleum trade.

NEW STEEL WORKS AT BARROW.—The extensive railway rolling stock works at Barrow-in-Furness, lately owned by Mr. S. J. Claye, of Derby, have been sold to Mr. David Caird, shipbuilder, Barrow, and Mr. Thomas Massicks Millom, who is largely interested in the iron and steel industry of the district. It is very probable that the new owners will put into operation the valuable steel and forge plant of these works, which are quite new, and which, being situated near the Barrow Docks and communicating with the Furness Railway, with sidings, are admirably situated.

MINING ACCIDENT IN AUSTRALIA.—Full details of the terrible accident at the Australasian mine Creswick, near Melbourne, have arrived by the last mail: 27 persons were imprisoned in the mine, and before the exploring parties could reach them 22 of them had died either by drowning or exhaustion. The accident occurred on Monday, Dec. 11. The mine was suddenly flooded, and the 27 men, or nearly all of them, ran to the highest part of the mine. Here, with the water nearly up to their chins, they held on by bars for some time. They had no light, and it was two days before they could be reached, the water having been in the meantime pumped out. When they could be got at it was found that all except five had perished. One of the survivors stated that the imprisoned men had prayed and sung and tried to cheer each other up; but one by one the victims, many of them struck by cramp, let go their hold, fell into the water, and were drowned. Their bodies were found in a heap at the foot of the roof where the men were. The victims were interred on Dec. 15. In all the principal towns of the colony active measures were at once taken to raise a fund for the support of the widows and orphans.

An analysis of the dividends paid by American mines to the end of 1882, prepared by Messrs. H. R. Lewis and Co., shows:—Gold mines paid to date, \$16,892,963; silver mines, \$12,516,027; gold and silver mines, \$1,350,000; silver and lead mines, \$14,165,087; copper mines, \$28,964,375; quicksilver mines, \$1,348,204; lead mines, \$390,000; nickel mines, \$10,000; total, \$75,636,646 (equals 15,127,329.) American mines other than those quoted on the New York, London, San Francisco, and Boston markets are not included in the list.

PROMOTERS AND SHAREHOLDERS—THE AUVERgne BITUMEN COMPANY.—In the Queen's Bench Division Mr. Baron Pollock gave judgment in the case of this company against Churchward on Jan. 20. The suit was instituted on behalf of the shareholders in a company which had failed to recover for them certain large sums of money received by the promoters and directors on a sale by them to the company at a large price—120,000L—of property in mines, really purchased, as alleged, for 6400L, and then professedly resold to intermediate parties for 60,000L, and, lastly, resold to the company for 120,000L, of which it was said 30,900L had been received by the directors. There were only about 4700 10L shares taken, and about 39,000L paid. This was not sufficient to pay half the purchase-money of the mines, and of course the company collapsed, having no asset except the mines, which were resold for about 6400L, the original price, diminished by expenses to about one-half, and this was all that remained for the shareholders. This suit being instituted, several of the defendants, under the sanction of the Court, entered into compromises for the payment of sums amounting to 2350L. There remained as defendants in the suit the executors of a Mr. Foster, the Chairman, who had died, and who, being executors could not compromise. The learned Judge, who had taken time to consider his judgment now delivered it against the executors of Mr. Foster. The ground of the claim, he said, was not personal receipt of money by the deceased director to his own personal profit, but his liability for a breach of trust, committed by a body of persons, of whom he was one, and to whose conduct he was privy. This breach of trust entailed a joint and several liability on the directors—that is, each of them was liable for the whole; and he,

therefore, must direct a decree against the executors for the amount proved to have been received by the directors, 30,900L, less the sums received from the other defendants, 2350L—that is, 28,550L, and his Lordship decreed accordingly.

COLORADO UNITED MINING COMPANY.

The subjoined circular has been addressed to the shareholders of the Colorado United Mining Company:—

GENTLEMEN.—On May 22 last I was, after several interviews and a thorough investigation of my testimonials, appointed by the board in London assistant to the manager at the mines, for 12 months certain.

I sailed from Liverpool on June 1 for New York, where I arrived on the 11th, proceeding on the 13th by way of Chicago, Kansas, and Denver to Georgetown, which place I reached on the night of the 17th. Immediately on my arrival I wrote to Mr. Hamill, the manager, and placed myself at his disposal. He, however, neither came nor sent. I called twice upon him on the 19th without seeing him, but saw his son, who drove me to the mine on that day. I first saw Mr. Hamill on Tuesday, the 20th, when he said I was to wait the arrival of Mr. Rae, the Chairman. I therefore waited until the following Friday, when they both came to the mine. They came again on Saturday, June 24, when Mr. Rae handed me a letter changing my position at the mine from "assistant to the manager" to that of "clerk," thus altering my appointment by the board in London. I was powerless in the matter, and could therefore make no objection, although it has since been evident that this was done to prevent my taking any active part in or obtaining any direct information relative to the working of the mine and the sales of ore. Mr. Hamill finding that I was a man experienced in mining, and not so easily led or misled as men of no experience, such as clerks from banks or lads fresh from school and office, soon resolved to get rid of me, and as early as Aug. 17 insisted on my dismissal, and on Oct. 5 I was accordingly dismissed by letter bearing date London, Sept. 21. Whether the dismissal will hold good has yet to be seen, but meantime I may say I have returned to England, with the view of explaining matters to the shareholders, and nothing would delight me more than to meet Mr. Hamill face to face in your presence at your approaching general meeting.

I found that the ore was carted by Mr. Hamill's orders to Georgetown before it was weighed, and before any account had been taken of it. I mentioned this to him and the Chairman, when he promised to get another weigh-bridge, and to fix it at the lower end of the mill. This was not carried out up to the time of my leaving, and not a single sack of ore was weighed over the existing bridge as it could have been, for as all milling ores sent from the mine to the mill were weighed as against the carter, there should have been no reason why the first and second class cobbled ore could not also have passed over the weigh-bridge in the same way before it left the company's premises for those of the smelters. On arrival at Georgetown the ore was left at the buyers' mill until it suited Mr. Hamill to attend and see it sampled, assayed, and weighed, sometimes two or three weeks elapsed, especially while he was attending the elections at Denver. The ore usually fetched \$1 14c. per ounce, but the larger the quantity of silver contained in it, the greater the price per ton was paid according to a scale agreed to between buyer and seller. I particularly noticed that very few returns of first class ore were handed me, therefore suppose it was sold with the second class, and if so the company lost a serious sum on each sack. The first class should contain 500 ounces and upwards of silver to the ton, the second class from 150 to 200 ounces, and the lead headings from 400 to 500 ounces, this latter being the finely dressed mineral. The mine is very rich and makes good returns, and I could not understand how it was the company did not pay dividends, and the miners in the district would not believe that such was not the case.

When I first went the company were paying 50 cents per ton for carting the ore and the smaller from the mine to the mill. I complained that it was too much, as the one horse, cart and man employed, earned nearly 50L per month. My complaint had effect, as on Aug. 28 I was told to charge 40 cents per ton instead of 50 as hitherto.

With regard to the accounts I was only able to make out such as Mr. Hamill supplied me with, and these were very scanty. There was no ledger, journal, nor merchants' ledger on the mine. These were, I suppose, kept at his private office in Georgetown, and I was therefore unable to check anything or make up proper accounts of any kind. Merchants' bills were handed to me to be entered in the mine cash book before they were paid, and on the Chairman's visit to the mine on June 23, Mr. Hamill showed him the cash book with a balance in favour of the mine of \$2,723.21, when in fact there was at that time entered as paid \$1,261.51, which was still due to merchants on account of April and May costs, and about which I knew nothing till the London Office wrote me for the vouchers. This happened more than once.

Of the mine itself I will say, that after many years' experience, and from information received from the miners who have worked there, it is the best mine in Colorado for length of sett, depth and richness of ore. The lode is a true fissure one, strong and masterly throughout, increasing as the mine is sunk. They have now reached the 13th level, and the ore gone down in the bottom is better than in any of the upper levels. At the time when reports were sent to this country that the pay ore was only of small size, I measured it myself as it came to surface, and found the larger proportion to be 8 to 10 inches thick, instead of from 1 to 2 as reported.

The lode itself varies in size. Sometimes it is 4 feet, but generally 2½ to 3 feet wide. The run of ground is very great, extending 3000 feet west of the silver ore shaft, and the ore discovered at this extreme end (the Penton and Oneida part of the company's property), is as good as that now worked in the Terrible proper, and in fact the matrix coming out of these levels is the finest that can be seen, the ore itself being galena mixed with brittle silver and very rich. The country rock is more decomposed and genial in character here than in the eastern part of the mine. The mines are not half worked, otherwise the output, which now is large, would be very much increased, for there is ample room for 150 more men to be put on at once without being in each other's way.

Seeing there are little or no water charges incurred in the working of the mine, it being so free from water, the large extent of property and the richness of its lodes, I have no hesitation in stating that if in the future it is fully and expeditiously developed with honesty and economy, it will pay large and permanent dividends even on its exorbitant capital. When I left the stopes opened out in the 12th level were only partially taken away, whilst the whole of the 13th level was intact. There are also the backs to take away from the Fenton, which adjoins the rich Baltimore Mine to the east, and the Oneida and West Terrible Tunnels, these being separate workings, all in ore. There has been a decided change for the better in the character of the ground below the 11th level, and I am of strong opinion, seeing that the ore is holding down in the bottom or 13th level, that there is a rich future for the shareholders, the lode improving not only in size but quality. The ground now actually open in the 12th and 13th levels, including only one stope in the latter, may be valued at 450 fathoms, and this taken at three tons per fathom would give 1350 tons of ore, equal to 60L per ton, or 81,000L. This estimate may appear large, but I believe the ore is worth 80L per ton. I would recommend that all the first and second class ore be sent to Liverpool for sale, as stated in my letter to the board on Sept. 21 last, as I consider it is impossible under the present system to get anything like full value for the ore. In fact it is sold very much below its value, as the lessees' ore, taken from the same part of the mine, gives a greater assay and realises a better price

than the company's, as is proved by the bought notes received from the smelters.

In conclusion I would state that I am convinced that the shareholders ought to have been in receipt of dividends for some years past, and the reasons why they have not received them will be clearly seen from this letter.

WILLIAM WARD.

Everton-terrace, Brooke-road, Stoke Newington,
London, Jan. 26.

ORGANOS GOLD MINES.

SIR.—Herewith are extracts from reports dated Dec. 4, and received yesterday from Mr. Green. They appear to be exceedingly satisfactory, as showing that the mine is now within measurable distance of yielding good results in the shape of profits.

It will be seen that with six heads of stamps now completed crushing was carried on for one week, and 2 lbs. weight of gold was obtained, leading Mr. Green, the manager, to the conclusion that, with the 18 heads of stamps now practically completed, he can obtain 30 lbs. of gold per month at a cost of 500*l.* to 600*l.* per month; 30 lbs. weight of gold would be worth about 1260*l.*, and the profit would therefore be about 660*l.*, or 7520*l.* per annum, equal to 52 per cent. on the capital of the company. There is, therefore, ground for believing that, with the 24 heads of stamps which will soon be completed, 40 lbs. of gold may be obtained, while the cost would be about the same—600*l.* Such a yield would bring a profit of 1080*l.* per month, or 12,960*l.* per annum, equal to 86 per cent. on the capital of the company. As regards further profits, it may be pointed out that the mine is so extensive that there is no reason why 100 heads of stamps should not be erected, and that the calculations contained in the prospectus were based upon the results of crushing with a battery of 40 heads.

It will also be seen that there is every prospect of the mine proving rich in depth. Roger's level, the deepest in the mine, was only commenced a few months ago, and the lode was not expected to prove productive at this point for some time to come. That the lode (which according to the last month's report was at this point practically valueless) should now be worth 8 dwt. of gold per ton is a most encouraging feature. The extract from "a private letter" is, like the rest, very gratifying. [The extracts both from the report and from the private letter will be found among the foreign mine reports.] It shows the stupendous character of the work which has had to be done, and the energy with which it has been carried out, that Mr. Green is thoroughly master of all the details of mining work, and, in a word, that he is the right man in the right place.

In conclusion, I have to congratulate the shareholders, in the name of the directors, upon the satisfactory nature of the prospects of the company—prospects which it is apparent another month or two will see completely realised.

A. RUSSELL, Secretary.

Cannon-street, London, Jan. 26.

ORNAMENTING TIN-PLATES.

Some few months since an improved method of ornamenting tin-plate and other metal sheets was patented by Mr. A. M. HOPKINS, of the Granville Works, Birmingham, but some modifications in detail having been found necessary in practice, a new patent has been taken by Mr. Hopkins, in conjunction with Messrs. Baker and Burt, two employees of the firm. The process is now carried out according to one or two methods. First, they carry a roller of special construction in suitable bearings, and supply the coating material, consisting of ink, varnish, lacquer, japan (or other similar coating materials), either alone or mixed with suitable colours or stains, as desired, to the said roller by passing under or otherwise in contact therewith, and with sufficient pressure, a flat surface, suitably charged with the coating material, and afterwards lay the coating material on to a tin-plate or other metal sheet to be coated, by carrying the said tin-plate or other metal sheet on a suitable table, or backing, and passing it, under sufficient pressure, with the surface to be coated under or otherwise in contact with the said roller. In order, however, to produce the design or pattern upon the tin-plate or other metal sheet, instead of simply coating it over, a lithographic stone, zinc plate, or other suitable equivalent for the purpose, has either the groundwork, or else the pattern drawn or marked thereon in any suitable manner practiced for lithographic or similar purposes, and the stone or plate thus prepared acts as the surface for supplying coating material to the roller.

The coating material is charged on to the stone, or equivalent in any suitable manner employed for lithographic or similar purposes. As the stone, zinc plate, or equivalent, is passed under or otherwise in contact with the roller, the latter takes up therefrom either the material lying upon the groundwork of the design (in the case of the stone or equivalent having been prepared for the groundwork only) and deposits such material very smoothly and evenly upon the plate, afterwards passed under or otherwise in contact with it, and only as the groundwork of the design or pattern, thus leaving the pattern uncovered, and producing the appearance of a metal pattern inlaid within a groundwork of ink, varnish, lacquer, japan, or other similar coating material; or else the roller takes up the material lying upon the pattern (in the case of the stone or equivalent having been prepared for the pattern only) and deposits such material upon the plate, and as the pattern only, leaving a groundwork of metal; or the material may be deposited to form the pattern or the groundwork upon a plate previously coated, in which case the previous coating forms the groundwork only, or the pattern only, as the case may be.

According to the second process they employ a similar roller with the pattern or design produced upon its surface. The coating material, and for the groundwork only, is taken up on to the roller from a flat surface, or is supplied from rollers which are themselves charged from a flat surface, or from a hopper or bath. The roller takes up the coating material only on to the parts of its surface which are not engraved, and consequently coats the groundwork of the design only on to the tin-plate, thus producing the appearance of a groundwork inlaid with metal. The engraved roller may be employed also to lay the groundwork material on to a tin-plate or other metal sheet previously coated, in which case, of course, the pattern or design appears in the colour or material of the previous coat. Tin-plates thus ornamented are stoved in the usual manner, and preferably at a high temperature, and may be afterwards made up into articles, or further ornamented or otherwise treated as desired previously to being made up. If the groundwork or pattern is first coated in varnish, size, or similarly suitable material for the purpose, gold leaf, metal leaf, gold powder, bronze, or colour may be laid on or dusted over to give the desired effect.

THE BORACIC LAGOONS OF ITALY.—An interesting report upon the springs in the Province of Pisa, which yield boracic acid has recently been issued by the United States Consul at Leghorn, there being a very considerable quantity of boracic acid annually exported to America. The district in which the springs occur belongs entirely to one owner, the Count de Lardarel, who in his seven "borax" villages has most conscientiously looked after the welfare, moral and social, of his workpeople. Although the whole of the neighbourhood contains most extensive borax deposits, indicated by Nature from the vapours that rise from the fissures, it is not from these sources that the most abundant supplies are obtained, but from artesian wells, which invariably strike the borax vein at a short distance from the surface. The boring, however, is carried down until the well yields water, when the machinery is withdrawn and water let into the shallow pond previously dug around the borehole. This water very soon becomes heated up to boiling point and impregnated with the borax, which rushes up from the opening of the artesian well, after which the water is drawn off and evaporated by passing it over a series of shallow metal pans, from 15 to 20 in number, arranged like a cascade. The borax as it reaches the bottom pan is half solidified, and when cold has the appearance of being frozen over with a skin of rotten ice. This skin is removed and strewn on the floor of a drying-house, heated by hot pipes, and by this means

the borax becomes crystallized. The lagoons have a most peculiar aspect during the issuing of the borax. When full of water the boiling is continuous, rising to some feet in height, but the vapour is quite clammy and unpleasant from its sulphurous odour. The smell of sulphur, indeed, pervades everything about the establishment, and everything in the shape of metal is greatly affected. The brass instruments of the workmen's band are coated with it for a tenth part of an inch; silver watches look more like platinum than silver; and only gold of the purest quality keeps its colour. The quantity of borax produced from the estate averages from 3 tons to $\frac{1}{2}$ tons a day, but as this is only one of the borax villages (though the most profitable), the total yield may be put down at 11 tons per diem. Upwards of 1800 labourers are employed on the property, of whom 800 are exclusively engaged in the production of the acid. It is to be regretted that the springs of Morbo, another of the villages, are not now more utilised as baths, in which capacity they are almost specific against rheumatism, and, indeed, were once celebrated in Tuscan history as having cured Lorenzo the Magnificent who had been a hopeless sufferer.

WATSON BROTHERS' MINING CIRCULAR.

WATSON BROTHERS,

MINEOWNERS STOCK AND SHARE DEALERS & CO.,
1, ST MICHAEL'S ALLEY, CORNHILL, LONDON.

Nearly twenty years ago the weekly information which had previously been published for a great number of years in WATSON BROTHERS' Mining Circular was transferred to the columns of the *Mining Journal*, with the following announcement.

In the year 1843, when mining was almost unknown to the general public attention was first called to its advantages, when properly conducted, in the "Compendium of British Mining," commenced in 1837, and published in 1843, by Mr. WATSON, F.G.S., author of "Gleanings among Mines and Miners," "Records of Ancient Mining," "Cornish Notes" (first series, 1862), "Cornish Notes" (second series, 1863), "The Progress of Mining," with Statistics of the Mining Interest, published annually in the *Mining Journal* for 21 years, &c., &c. In the Compendium, published in 1843, Mr. WATSON was the first to recommend the system of a "division of small risks in several mines, ensuring the success in the aggregate," and Messrs. WATSON BROTHERS have always a selected list on hand. Perhaps at no former period in the annals of mining has there been more peculiar need of honest and experienced advice in regard to mines and share-dealing than there is at present; and from the lengthened experience of Messrs. WATSON BROTHERS they are emboldened to offer, thus publicly, their best services and advice to all connected with mines and mining.

Messrs. WATSON BROTHERS are daily asked their opinion of particular mines, as well as to recommend mines to invest or speculate in, and they give their advice and recommend mines to the best of their judgment and ability, founded on the best practical advice they can obtain from the mining districts; but they will not be held responsible, nor subject to blame, if results do not always equal the expectations they may have held out in a property so fluctuating as mining.

The great extension of mining business, the difficulty so often complained of by country shareholders in getting accurate and disinterested information as to the state of Cornish and Foreign Mines, and of the financial and real position of mining companies generally, have induced Messrs. WATSON BROTHERS to make their Circular now published in the *Mining Journal* more extensively known, and to state—

That they issue daily to clients and others who apply for it a Price List (as supplied to most of the London and country papers), giving the closing prices of mining shares up to Four o'clock.

They also buy and sell shares for immediate cash, for the usual fortnightly settlement in all mines dealt in on the Mining and Stock Exchanges, at the close market prices of the day, free of all charge for commission. They deal also, on the same terms, in the Public Funds, Railways, Telegraphs, and all other securities dealt in on the Stock Exchange.

Having agents in all the mining districts, they are constantly getting mines inspected for their own guidance, and will also obtain special reports of any particular mine for their clients, for the inspecting agent's fee of £2 2*s.*

Messrs. WATSON BROTHERS take this opportunity of stating that on July 1 they took into partnership Mr. H. J. DEAN, who has been for a number of years associated with the firm, and Mr. W. H. H. WATSON, who has had some years of experience of practical mining and engineering in Cornwall, and is the son of the senior partner. The firm will still be called that of "Watson Brothers."

Indeed, while new blood is introduced to attend to the more laborious and mechanical details of the business, the old will have more time to devote to their different departments.

A letter was received from the agent of West Crebor on Monday morning stating that he had just commenced to drive the 62 fm. level west of shaft so as to make room for fixing the plunger-lift; the end had then been driven only 3 or 4 ft., and the lode was 3 ft. wide, worth 10*l.* per fathom, "a strong good looking lode, which looks very encouraging for the deepest level in the mine." Since this the lode has improved to 12*l.* per fathom.

The Chairman's remark referred to at the Parys meeting was to the effect that he did not consider the London directors of Mona had taken any part against the Parys company.

There are, as it was explained at the meeting, two kinds of ochre—that made in the precipitation pits, and that found in a native state. The old iron is scattered over large pits; on to this flows the water from the enormous mass, said to be millions of tons, of halvans, or poor copper ores left, on Parys Mountain when the mines were so rich, and flooded the market with ores of a high produce. This water literally eats up the old iron, and forms copper precipitate, which sells from 9*l.* to 12*l.* per ton, and the Parys Company sell a good deal of it in the course of a year, the Mona Company very often being the buyers. The water from these pits then flows into other pits, where they deposit yellow ochre. This when dried is worth 30*s.* to 40*s.* per ton, and is largely used by paint and colour makers. Large quantities of this ochre are sold by the Parys Company to the manager of Mona; thus it will be seen how intimately the two mines are connected. The native ochre, the discovery of which by the Parys Company is estimated by the agent at 20,000 tons, can be raised at about 2*s.* per ton, and it sells at 10*s.* to 15*s.* as dug up. When washed and dressed it is worth 2*l.* per ton. For this ochre there is a good sale, large quantities being used, we are told, in gas and other works. This discovery, therefore, which was only heard of lately—though native ochre has always been found in the opencast—is a most valuable one, and should form a large item in a valuation should the mines be given up or sold, a contingency we hope may be far distant, and will be so if the shareholders respond to the appeal made to them.

In the year 1870, the Vice-Warden of the Stannaries decided that existing shareholders alone were liable for the debts of a mining company, and the attempt to bring in "past members" was upset with costs. The matter is referred to in the *Mining Journal*, Sept. 17, 1870. The Vice-Warden at the same time referred to a practice common then—very much in vogue, we fear, at the present day—and condemned it—the practice of making calls insufficient to meet debts, "so common," he remarked, "among ill-managed companies." He went on to say, "The managers like to conceal the extent of their real debts, and prefer relying on the loans of a country banker to alarming their co-adventurers by heavy calls." It is best at all times to make calls, however heavy, and pay debts at once, than to allow them to accumulate.

The principal operations at East Blue Hills of late have been in erecting and repairing the water stamps for returning the tin, the expense of which, we believe, is now complete and paid. During August, September, and October, there was very little water to work stamps and return tin at all. The sales of tin since June last have amounted to 916*l.* 9*s.* 11*d.* that for December was 124*l.* 12*s.* 3*d.*, and January 132*l.* 5*s.* The costs have been heavier than formerly, as the machinery required and erection have been charged and paid as current cost, and have taken longer time than anticipated. The company have rather more than 100*l.* still in hand, and we hope the returns in future will show a monthly profit. We were promised a dividend before this. The adit level (50) has lately been passing through a bar of poor ground; but it is now again entering a profitable strata, the lode coming in 3 ft. wide, and worth 5*l.* per fathom. At the 40 fm. level a cross-cut is being driven to intersect the main part of the lode, which is an interesting point, as this part of the lode in the level above was very productive.

At North Blue Hills the old horse engine-shaft, which was sunk by the old company 14 fms. under adit, is being cleared, and it is reported that a good copper lode was left when the horse-engine was

overpowered by water. In the adjoining mine, Perran St. George, immense quantities of copper were raised.

It is impossible that we can at present reply to, or notice, all the communications in regard to Mona.

Wheal Uny, we understand, is about paying costs, and is opening out well, so that returns will increase. During the past 18 months the engine-shaft has been sunk 20 fms., opening up large reserves of tin ground; a good deal of money also has been spent in reconstructing the tin floors.

West Caradon, New West Caradon, and West Gonamena have all been specially reported upon for some large holders, and all favourably. At New West Caradon there is a very important point coming off, and one that may cause a great rise. The inspector writes—A cross-cut driving south from skip-shaft on Hallett's cross-course at the 38 fms. level to intersect Clemo's lode, and then Jope's. Both of these lodes were very rich in both the adjoining mines (South and West Caradon), and the mine is a good speculation and almost certain to prove a success.

The sampling at Wheal Crebor will be 400 tons at least. In the bottom of the 120 east of No. 2 winze the part of the lode carried is worth 18 tons of copper ore per fathom, and set at 4*l.* 10*s.* per fathom.

The points in Carnarvon Copper are worth 6*l.* tons of rich copper ore per fathom.

A fine lode, worth 1 to 1*l.* tons of lead ore per fathom, was found at Great West Chiverton, and an engine obtained some months ago to prove it some fathoms below the deep adit, and we hope it will soon be met with. Then, no doubt, a meeting will be called. There are few shareholders, and as no money has been, or is, required, at present there was nothing to call a meeting for. The amount originally raised was 1500*l.*, or 5*s.* per share on 6000 shares.

MINING MACHINERY, MILLING MACHINERY of the MOST APPROVED AMERICAN PATTERNS

GOLD MILLS.

The California pattern of Gold Stamp Mill is universally accepted as the most perfect, economic, and efficient made.

We have over 900 stamps in successful work in the various Western Gold Districts.

SILVER MILLS.

Silver amalgamation in Pans is essentially an American system evolved after years of work on the rich silver mines of Nevada.

We have over 500 Stamps, with necessary pans, settlers, roasting furnaces, &c., all of our own manufacture, at work in different silver camps of the United States, Mexico, and South America, and Phillipine Islands, Asia,

CONCENTRATION MILLS

Of the most approved German pattern and arrangement, or with Stamps and Frue Vanner Concentrators for low grade silver ores, light in lead. We have over 20 large German pattern mills at work on lead, zinc, or copper ores, and numerous Vanner mills on ores never before successfully concentrated.

Mining Pumps, Cornish pattern, of the largest sizes, Hoisting Engines from 4 h.p. up to the largest direct-acting engines to sink 3000 feet.

SMELTING WORKS.

We have 80 Water Jacket Smelting Furnaces in use from 20 in. circular up to 54 in. by 60 in. for lead and silver smelting; and special High Jacket Furnaces for copper ores.

Engines of any size, plain slide valve, Corliss, compound Corliss, Boilers, all sizes. Leaching Mills, Hallidie Wire Rope Tramways Comet Crusher, with capacity of 12 to 20 tons per hour. White, Howell, Bruckner, and Stetefeld Roasting Furnaces, &c.

We have had twenty years' experience in the manufacture solely of MINING MACHINERY, and have special facilities for shipping all foreign parts through our New York Office, where all details of clearance, shipment, and insurance are conducted. Our machinery is already well known in Mexico, Peru, Chili, Venezuela, Honduras, and other South American countries.

Correspondence solicited. Descriptive Circulars and Catalogues on application.

FRASER & CHALMERS.

PRINCIPAL OFFICE AND WORKS. NEW YORK OFFICE

Fulton and Union Streets, No. 2, Wall Street,
Chicago, Ill., U.S. New York, U.S.
COLORADO OFFICE—CHEESMAN BLOCK, DENVER.

MINING AND REDUCTION OF QUICKSILVER.

The only countries in Europe where quicksilver is found are Italy, Spain, and Austria; and the production of Italy has greatly increased late years, owing to the development of the mines of Amiata in Tuscany. The following, according to a paper contributed by M. Bidon to the Génie Civil, is the method by which quicksilver is worked at these mines:—The Amiata mountain, situated on the south-east boundary of the province of Sienna, contains several deposits of the minerals employed in industry, and especially cinnabar, or sulphate of mercury. That in the valley of the Siele is found in an argillaceous lode, in the form of almost invisible particles, and of very rich red masses, sometimes of large size. The vein has been proved for 150 metres horizontally and 170 metres vertically. Two shafts have been sunk—one 170 metres deep and the other 57 metres, with horizontal workings, which cut the lode at three different heights. A preliminary separation of the ore underground furnishes sufficient material for filling up the spaces left by working. The ore from the lower heights is brought to the bottom of the deeper shaft, and raised by a winch to the level of the upper height, whence it is conveyed, by a slightly inclined gallery, to a chamber at the bottom of the smaller shaft, and from thence raised to the surface by engine-power. A screen separates the stone from the ore, and also divides the latter into two classes—rich and poor. The ore is run down a self-acting incline, in trucks, to the works, and is reduced by women into small pieces, which are kept as dry as possible.

The Siele works have twelve half-moon retorts of cast-iron for treating the rich ore, and three vertical furnaces for the poor ore. The retorts are arranged horizontally three by three, in four

filled with cold water; and the metallic mercury is drawn off from inclined channels at the bottom.

The retorts, fired with wood, of which a large quantity is consumed, only serve for the rich ore; the poor is treated in the three vertical furnaces, which are 4 metres high by 1 metre in diameter (13 ft. by 3 ft. 3 in.). Each furnace is closed at the top by a hopper, with two doors, the upper of which has a water joint. Twelve charges are made a day; and care is taken to open the upper door as little as possible. At the bottom of the furnace there is a grating with moveable bars. The charge consists of 100 kilogrammes (2 cwt.) ore, mixed with a quarter the quantity of charcoal. The charge is only lowered into the furnace by opening the lower door, while the upper one is closed; and a fire is kept burning at the upper part of the furnace, for preventing the escape of the gases. The mercurial vapours and gases of combustion are led by a chimney into condensing chambers. From 150 to 160 tons of ore are extracted from the Siele Mines every month about 22 tons of metallic quicksilver, which is packed in about 300 cans with screw stoppers.

WEST CARADON MINE—SPECIAL REPORT.

Jan. 22.—In compliance with your request I inspected this property on the 19th inst., and beg to hand you the following report:—The adit level, west of main cross-cut, on Gilpin's lode has been driven a long distance on the course; throughout the drivage it varied in width from 8 in. to 5 ft., and in productiveness from 10 cwt. to 3 tons of good ore per fathom. The lode in the end is small, but this is quite within keeping of its character to make these sudden warps; it is producing some rich stones of grey and yellow copper. This pinch, I think, is only temporary, as it appears again to be opening out, and I believe as the end is extended it will soon resume its former size and value. A winge sinking in the bottom of this level about 8 fathoms behind the end is down between 3 and 4 fathoms; lode 3 ft. wide, composed of beautiful friable spar, peach, and rich copper, worth 2 tons 10 cwt., in money value 16s. 5s. per fathom. This is a fine strong masterly looking lode, and promising for further improvement. A stop in the back, west of the rise, about 7 fathoms long, where the lode is producing 2 tons of rich black and yellow copper, money value 13s. per fathom. The rise in the back of this level is up about 6 fathoms; this is laying open some valuable ground. In the highest point the lode will produce fully 2½ tons of rich copper ore; money value 16s. 5s. per fathom. This, in my opinion, is a very important point. I was informed that the lode is still intact from this point to a surface a distance close on 40 fathoms. Many of the shoots of ore in this district have been proved to hold rich within a few fathoms from the surface; this must lay open a large quantity of valuable ground.

In the 35, west of main cross-course, on Gilpin's lode, a rise has been started to meet the winge sunk from the level above, and when communicated this part of the mine will be well ventilated, and enable you to attack different points vigorously. A rise in the back of the 35, west of main cross-course, on Taylor's lode, is laying open some good paying ground, which will yield 2 tons of copper ore per fathom, worth 13s.; the lode has made a split, but judging from its appearance it will come together again a little higher up, when I think a good improvement will be found. A rise on Vivian's north lode, in the back of the 35, west of Hallett's cross-course, is opening out paying ground, producing 2 tons of copper ore, worth 13s. per fathom. A stop in back of this level will produce 1 ton of copper ore, worth 16s. 10s. per fathom; I think this will improve as it gets higher up to catch the shoot of ore passed through in the rise referred to above.

NEW WEST CARADON.—A cross-cut south from skip-shaft, on Hallett's cross-course at the 38 to intersect Clemo's lode. Both of these lodes proved very rich in the both adjoining mines (South and West Caradon). This is a good speculation, and almost certain to prove a success. The end driving west from Hallett's cross-course has been extended about 18 fms. The lode throughout has been productive, now producing 10 cwt. of copper ore, or money value 3s. 10s. per fm., and promising for further improvement. In the 55, west of Hallett's cross-course an end is being driven on a caunter lode which has a promising appearance, producing good stones of copper ore, but not sufficient to value. Two stops in the 32, west of Hallett's cross-course, on main lode—No. 1 in the bottom of the level, No. 2 in the back of the same—are each producing 1 ton of good ore, or worth 16s. 10s. per fathom. The general prospects of these mines are very cheering. Looking at the quantity of paying ground laid open in the different points of operation, with a cross-cut approaching one of the richest lodes (Clemo's) in the district the shareholders may congratulate themselves on having a good property, and one that can scarcely fail to well repay them for their perseverance and outlay. In giving the money value I have been guided by the prices realised for the 145 tons sold on Thursday last.

WEST GONAMENA.—The sett is very extensive, and is known to contain five well-defined lode traversing its entire length. A shaft has been sunk on the middle (better known as Sarah's) lode 10 fms., and levels extended east and west. The eastern end was driven out to the adit, and the western end 12 fms. on the course of the lode. Throughout the sinking and driving the lode is well-defined, and has a very promising appearance, producing some good stones of copper, mudi, and beautiful iron gossan, in fact, all that could be desired, except a course of ore, and as it made rich deposits in the adjoining mine (Old Gonamena). I see no reason to doubt, if properly developed, but similar results will be found here. Nothing has been done on the other lodes in this property, having five lodes in an area of 150 fms.; the three south have yielded large quantities of rich copper in the adjoining mines. I would recommend this to any company of mining gentlemen as a fine speculation, believing this property offers great chances of success.—R. GOLDSWORTHY.

NEW GREAT WORK.—Under this title it has been resolved to develop a highly-mineralised property in Germoe, untouched, it is believed, since the Godolphin family advantageously worked it two centuries since, and, proving, after a few months of preliminary labour, that its burrows, its adit levels, and the lodes already seen, with modern appliances and proper capital, can be made to yield good returns of tin. Leases for 21 years, at 1-20th dues, have secured four sets, a mile from east to west on the course of the lodes and three-quarters of a mile in width; the whole a compact surface of 500 acres, under which the granite and killas meet, and surrounded by Great Work, Great Wheal Vor, and Godolphin Mines. Mr. Jonathan Stephens, of Penzance, commenced work here, and, with Messrs. H. Worsedine and R. C. C. White, has now disposed of his interest to a company which was formally started this week, and will soon invite a subscription of 30,000*l.* in 17 shares. Under local and London management the adit level has been cleared for 160 fms., and six lodes opened up. On Park Penhale lode they have driven 6 fms., and found very rich work for tin. In the present end the hole is 10 in. wide, and yielding 2½ cwt. to the ton of stuff. With eight heads of stamp 27 cwt. of excellent tin was returned last month. A large local interest has promptly been secured, and the public will soon hear something more of New Great Work, of which Mr. W. M. St. Aubyn, M.P., Mr. W. H. Richards, of Marke, and Mr. J. G. Sutton-Browning, of Brook-street, Grosvenor-square, are the first directors, Mr. H. Worsedine (late of the Admiralty) joining them after allotment.

From Mr. JOHN B. REYNOLDS:—The markets all round have been so depressed during the week that the oldest brokers declare that such a general stagnation is not within their recollection. The able articles on finance and trade which have appeared in the Daily News have given a true view of the situation; but the editor rightly speaks more hopefully of the future than is his usual custom. Mining men are by no means uneasy about the present state of affairs. True, the produce known he most temporarily suffer; but the speculators—a class at present which almost monopolise business in Cornish mine shares—have long since felt that their great chances of profit lie in falling prices and sharp panics. With the clever operators the only complaint is that the downward tendency is not sufficiently decided, and so fearful are they that the lowest quotations have been touched that buying orders are already in their brokers' hands. The timid and inexperienced have been making heavy losses, and losses on a much larger scale must soon be made if a decided reaction does not shortly set in. However, buyers are quite safe to act at once if they can take up and hold the stock. But only first-class shares should be bought; many doubtful companies must succumb, but no better investment can now be made than in sound dividend and progressive mines. More than ordinary common-sense must be brought to bear on the selection, however, even at this moment. But happily there is no lack of evidence, and the risk may, indeed, be considered as almost nil. We have the experience of the past to guide us, and the columns of the Mining Journal for years back illustrate the wisdom of these views, and the large fortunes which have been made by those who have dared to buy when the multitude have been selling prove that what we suggest to be more than justified by the history of the past, to say nothing of the prospects of the future.

GOLD AND SILVER.—MESSRS. PLEYLT and ADELL (Jan. 25) write:—There is no demand whatever for gold for export, and the Bank has received the arrivals which consisted principally of sovereigns, the total sum sent in during the week being 69,000*l.* The amounts to hand since our last report 56,900*l.* from the East, 25,630*l.* from Australia, 17,00*l.* from the Cape, 23,90*l.* from the Brazils = 128,520*l.* The Don has taken 23,720*l.* to the West Indies. Silver bars have steadily improved in value since our last; orders have been received from the East and the Continent, and consequently rates have risen from 50*l.* 4*d.* (our quotation of last week) to 50*l.* 6*d.* 50*l.* 4*d.* and 50*l.* 6*d.* at this last price the silver by the Strabo was placed. The arrival for the week have been 4480*l.* from America, 13,000*l.* from the River Plate, 38,400*l.* from the East = 55,880*l.* The P. & O. steamer has taken 20,000*l.* to Bombay.

RELIEF OF COUGH AND ASTHMA IN TEN MINUTES BY DR. LOCOCK'S PULMONIC WAFERS.—From Mr. Fox, Omnibus Office, Whitefield-road, Liverpool:—“After years of severe suffering, and fearing many and many a night I should have died from suffocation, &c., I was induced to try Dr. Locoock's wafers. Ten minutes after I had taken two wafers I felt relief.” Sold by all druggists at 1*l.* 1*d.* per box.

SALES OF COPPER ORES.

COPPER ORES SOLD AT THE CORNWALL TICKETINGS, FOR THE QUARTER ENDED DECEMBER 31, 1882.

Mines.	Tons.	Amount.
Devon Great Consols	2364	£6990 19 6
South Caradon	1220	6102 4 6
Mellnear	1618	6085 10 6
Levant	445	3331 1 6
Wheal Crebor	901	3194 2 6
West Tolgus	363	3185 5 0
Gunnislake (Clitters)	420	1895 13 6
Glasgow Caradon	340	1798 9 6
Marke Valley	605	1620 10 6
Bedford United	541	1518 16 6
South Devon United	610	1444 3 0
New Cook's Kitchen	209	902 1 0
Wharf Owles	28	534 0 0
West Seton	93	518 2 6
Holmbooth	237	502 1 0
Gawton	614	449 17 6
Phoenix	94	46 13 0
Wheat Jewell	97	334 8 0
Prince of Wales	82	294 0 0
East Uny	38	276 2 0
Tincroft	49	264 12 0
Mid-Devon	43	242 6 0
Botallack	30	223 10 0
Mount's Bay Consols	30	209 6 0
East Caradon	53	184 3 6
Carn Brea	42	170 2 0
Devon Friendship	23	161 10 6
Calstock and Danescombe	30	156 15 0
Hington Down	34	156 2 0
East Pool	35	93 12 6
West Godolphin	6	90 5 0
South Condurrow	29	50 10 0
Wheal Boys	11	45 13 0
Cambray Vean	15	45 7 6
Thomas's Ore	12	11 8 0

COMPANIES BY WHOM THE ORES WERE PURCHASED.

Mines.	Tons.	Amount.
Vivian and Sons	5,055	£12,832 14 3
P. Grenfell and Sons	523	2,232 17 0
Nevill, Druse, and Co.	2,806	9,159 9 0
Williams, Foster, and Co.	2,594	10,599 5 9
Mason and Elkington	682	2,584 7 6
Total	11,657	£43,338 13 6

COPPER ORES SOLD AT THE SWANSEA TICKETINGS, FOR THE QUARTER ENDING DECEMBER 31, 1882.

Mines.	BRITISH.	Tons.	Amount.
Cambrian	181	£2,176 15 0	
Foundry Ashes and Sweepings	14	174 14 0	
Total	195	£2,351 9 0	

COLONIAL.

Mines.	FOREIGN.	Tons.	Amount.
Spanish	1059	£4,622 2 0	
New Quebec	484	3,503 8 0	
Garonne	316	2,811 4 0	
Virneberg	87	875 19 6	
Ajuzrel	29	682 0 0	
Mercos.	14	225 6 0	
Total	1989	£11,988 19 6	

RECAPITULATION.

Mines.	BRITISH.	Tons.	Amount.
British	195	£2,351 9 0	
Colonial	240	1,367 3 0	
Foreign	1980	11,988 19 6	
Sundries	206	3,982 6 0	
Total	2221	£19,690 17 6	

COMPANIES BY WHOM THE ORES WERE PURCHASED.

Mines.	Tons.	Amount.
P. Grenfell and Sons	88	£1,326 15 0
Nevill, Druse, and Co.	596	4,985 14 6
Vivian and Sons	459	3,817 4 0
Williams, Foster, and Co.	1000	7,514 7 0
Mason and Elkington	201	719 2 0
Landore Copper Company	275	1,330 15 0
Total	2621	£19,690 17 6

ST. JOHN DEL REY MINING COMPANY (Limited).—Advices received Jan. 18, 1883, ex Mondego (s.), dated Morro Velho, Dec. 13:—

GENERAL OPERATIONS.

GOLD PRODUCE FOR THE MONTH OF NOVEMBER.—The gold extracted in the above period amounts to 18,901*l.* oits., equal to 2179*l.* 0*6* ozs. troy. It has been derived as follows:—

General mineral	Oits.	Tons.	Oits. per ton.

<tbl_r cells="4" ix="1

EVERY DESCRIPTION
OF NEW AND SECONDHAND
ENGINES,
BOILERS,
PUMPS,
SHAFTING, PULLEYS, BELTING,
AND
MACHINERY GENERALLY.

Before Purchasing, send for

PHILLIPS' MACHINERY REGISTER,

Containing over 2000 entries of above

ADDRESS—

CHARLES D. PHILLIPS,
EMLYN WORKS, NEWPORT, MON.

ENGLISH INVESTMENTS
IN
AMERICAN MINES.

J. TROWBRIDGE BAILEY,
MINING ENGINEER AND EXPERT.

Member American Institute Mining Engineers.

Detailed and Accurate Reports furnished upon Gold, Silver, Copper, Coal, Properties, Mill Enterprises, &c., in Colorado, New Mexico, and the Central Mining Districts of the United States. Titles examined, Maps constructed, and Reliable Information of any nature concerning Mining Interests furnished promptly.

A List of English and American References of high character can be obtained from Messrs. MARCUS WARD and Co., No. 68, Chandos-street, London; or MINING JOURNAL Office.

All communications for Mr. BAILEY should be mailed to—
IDAHO SPRINGS, COLORADO, U.S.

J. A. JONES,
MINING ENGINEER,

GIJON (ASTURIAS), SPAIN.

Mines inspected and reported on. Assays and valuations effected. Has on hand offers of Mines of Copper, Calamine, Blende, Phosphate of Lime, Tin, Lead, Iron, Manganese, and Manganiferous Iron Ores.

MINING ENGINEER.

ALEX. DEL MAR.

Mining Engineer, late Director of the United States Bureau of Statistics, Mining Commissioner for the United States Monetary Commission &c., 216, SANSCOE STREET, SAN FRANCISCO.

Cable Address: "Delmar, San Francisco." Branch Offices: 61, Broadway, New York; and 77, Cornhill, London, E.C.

Particular attention paid to Hydraulic Mines and Mining Machinery.

LIEBIG'S EXTRACT OF MEAT AND MALT WINE
(COLEMANS').
A DELICIOUS BEVERAGE AND TONIC

IMPORTANT TESTIMONIAL.

Queen's Crescent, Haverstock Hill, London, March 5th, 1881.
DEAR SIR.—Some time since, being greatly fatigued with overwork and long hours at business, my health (being naturally delicate) became very indifferent. I lost all energy, strength, and appetite, and was so weak as to be scarcely able to walk.

As you are aware, I sent for a dozen of your Extract of Meat and Malt Wine, which, in a few days, pulled me up marvellously. Three or four glasses of it daily have quite altered and restored me to better health than ever, "without the assistance of a doctor."

I am now giving it to my son, twelve years of age, whom we have always thought consumptive, and from a puny ailing boy he seems to be fast growing into a strong healthy lad.

Enclosed you have a cheque. Please send me two dozen of the "Extract." With thanks for your prompt attention to my last.

I am Sir, yours truly,

GEORGE A. TYLER.

Pints, 30s.; Quarts, 50s. per dozen. Carriage Paid to any Railway Station. Sample Bottle sent for 33 stamps.

Post-Office Orders and Cheques payable to—

COLEMAN AND CO., MUSPOLE STREET, NORWICH.

Sold by all Druggists in Bottles 2s. 9d. and 4s. 6d. each. Ask for Coleman's Liebig's Extract of Meat and Malt Wine, and "See that you get it."

Just published in One Large Volume, Super-royal 8vo., cloth, price 42s. 6d.

GOLD: ITS OCCURRENCE AND EXTRACTION, embracing the Geographical and Geological Distribution, and the Mineralogical Characters of Gold-bearing Rocks; the Peculiar Features and Modes of Working Shallow Placers, Rivers, and Deep Leads; Hydraulicing; the Reduction and Separation of Auriferous Quartz; the Treatment of Complex Auriferous Ores containing other Metals; a Bibliography of the subject, and a Glossary of Technical and Foreign Terms.

By ALFRED G. LOCK, F.R.G.S.

Numerous Illustrations and Maps.

London: E. and F. N. SPOONER, 16, Charing Cross.

New York: 44, Murray-street.

ESTABLISHED NEARLY FIFTY YEARS

THE MINING JOURNAL,
RAILWAY AND COMMERCIAL GAZETTE,
Has the
WIDEST CIRCULATION

AMONGST
MINERS, METALLURGISTS, ENGINEERS
AND ALL
FINANCIAL AND COMMERCIAL MEN
THROUGHOUT THE GLOBE.

PRICE SIXPENCE WEEKLY.

SUBSCRIPTION:

Great Britain £1 4 0 per annum.
Postal Union 1 8 0 ..

LONDON: MINING JOURNAL OFFICE, 26, FLEET STREET; AND TO BE HAD OF
ALL BOOKSELLERS AND NEWSAGENTS.

MAPS OF THE MINES, AND OF UTAH TERRITORY

FROISETH'S NEW AND REVISED MAP FOR 1875.—Size 40 by 56 inches, scale 8 miles to the inch. Handsomely engraved, coloured in counties, showing the Towns, Settlements, Rivers, Lakes, Railroads, Mining Districts, &c., throughout the Territory, and all the Government Surveys to date. Mounted on cloth, £2; half-mounted, £1 12s.; pocket form, 2s.

Also, GENERAL MINING MAP OF UTAH, showing twenty-eight of the principal Mining Districts adjacent to Salt Lake City, and location of the most prominent mines. Price, pocket form, 6s.

Also, NEW MAP OF LITTLE AND BIG COTTONWOOD MINING DISTRICTS showing the location of over Four Hundred Mines and Tunnel Sites, together with the Mines Surveyed for United States Patent. Price, sheets, 6s.; pocket form, 6s.

For sale, and supplied by—

TRUBEE and Co., 57 and 59 Ludgate Hill, London.

B. A. M. FROISETH, Salt Lake City, Utah, U.S.

In the Court of the Vice-Warden of the Stannaries.
Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACT, 1862, and of the SOUTH DOLCOATH MINING COMPANY. TENDERS will be RECEIVED by the Registrar of the said Court, at his office, in Truro, in the county of Cornwall, on Saturday, the 3rd day of February next, stating the HIGHEST PRICE which will be given for the SETT or LICENSE under which the mining operations of the said company have been carried on, together with the whole of the

MINING PLANT, MACHINERY, MATERIALS, AND EFFECTS

At and upon South Dolcoath Mine, in the parish of Camborne, within the said Stannaries, including—

ONE 50 inch cylinder PUMPING ENGINE, 9 feet stroke, with one 11 ton boiler; balance bob, with wood stand, complete; shaft tackle and shears, with two shovels; a quantity of 8 inch pitwork; water wheel 23 feet in diameter; dressing materials and appliances; and a quantity of other effects generally in use in mines; together with the account house and office furniture, including kitchen stove, 3 feet 6 inch, with all necessary fittings.

To inspect the above, apply to the Bailiff in charge at the Mine, and for further particulars at the office of the Registrar.

HODGE, HOCKIN, AND MARRACK, Truro.

(The Solicitors having the carriage of the proceedings in the said Matter.) Dated Registrar's Office, Truro, January 23rd, 1883.

SALE BY AUCTION OF FORTY SCOTCH CART HORSES AND PARCEL VANNERS,

Warranted sound, free from vice, and good workers in all gear.

IMPORTANT TO BREWERS, BUILDERS, COAL MERCHANTS, CONTRACTORS, AND OTHERS. To be sold on three days' trial, on Tuesday, 30th January, at Two o'clock prompt, at Mercer's Establishment, 6, Park-lane, Piccadilly, London, a magnificent stud of FORTY PURE-BRED CLYDESDALE CART AND LORRY HORSES (direct from the most eminent breeders in Scotland), of first-rate quality, splendid action, and grand appearance, comprising teams of guaranteed sound young horses, which are certain to meet with commendation when seen.

MESSRS. PETER MOIR AND SON have the honour to announce that they will submit FOR SALE, BY AUCTION, entirely without reserve, within Mercer's Establishment, 6, Park-lane, Piccadilly, London, on Tuesday, 30th January, at Two o'clock prompt, FORTY valuable, powerful, short-legged, young and active sound CLYDESDALE CART AND LORRY GELDINGS AND MARES, of the choicest colours, in bays, browns, chestnuts, greys, and blacks, ranging in height from 15 to 17 hands high, and in ages four, five, six, and seven years old.

These horses have been specially selected for this market throughout the best breeding districts (and include many prizetakers, descended from the best strains of Clydesdale blood in Scotland). They are all characterised for their docility of temper, surefootedness, and great power of endurance. They are adapted for every variety of purpose, and are guaranteed good workers in all gear, free from vice, and warranted sound, and will be sold on three days' trial. On view day prior to sale.

Descriptive catalogues will be sent on application.

ABERYSTWYTH, CARDIGANSHIRE.

SALE OF MINING MACHINERY.

M. R. E. ELLIS has been favoured with instructions TO SELL, BY AUCTION, on Wednesday, January 31st, 1883, at One o'clock p.m. (subject to conditions to be then and there read), at the Auction Mart, 28, Little Dark-gate-street, Aberystwyth, a COMPLETE SET of GREEN'S PATENT SELF-ACTING DRESSING MACHINERY, manufactured to the order of a Mining Company, who, having changed their plan of operation, do not require the same, and comprising:—

JIGGERS.

Seven four compartment jiggers, continuous and self-acting machines, each consisting of four top and two bottom stands, hatches, &c. The hatches are strongly made of carefully selected and well seasoned timber; a shaft of wrought-iron, turned and polished, and fitted with loose and fast pulleys, eccentrics, eccentric couplings, and loose collars; eccentrics and straps of cast-iron, stroke of eccentrics adjusted to suit work; plungers of carefully selected timber, strongly planed and framed; sieves of perforated sheet-iron, gratings of cast-iron, valves, valve-rods, levers, balls, stays, and fulcrum blocks, complete. The whole got up in a manner calculated to stand heavy wear; all the most exposed part of the woodwork being bound with hoop iron.

TROMMELS.

Three patent circular automatic revolving classifiers, with perforated plates, graduated to suit work; each classified to have substantial cast-iron ends and driving gear, including coupling wheels, bracket pedestals of cast-iron, bored to fit central shaft of classifier; one countershaft for driving gear, turned and polished, and fitted with loose collars, driving pulley, &c.; troughs and shoots of wrought-iron under each classifier.

SADDLE BACKS.

Three saddlebacks water current classifiers, made of carefully selected timber, framed, planed, and strongly put together with wrought iron bands, outlet, sieves, &c.; two cast iron ditto, ready for fixing to launders.

IRONWORK FOR BUDDLES.

Four Green's improved circular buddles, each consisting of a cast iron centre, moulded from a cast iron pattern; cast iron footstep, spreader plate, a vertical shaft, turned and polished; cast iron water cistern and spreader, bored and keyed to vertical shaft; countershaft of wrought iron, finished bright; bevel pinion to match bevel wheel; a fast and loose pulley, turned on face and edge, and fitted to countershaft.

PULLEYS AND SHAFTING.

Pulleys, shafting, pedestals, and brackets to drive the above.

PIPING, TAPS, &c.

Twelve lengths of cast iron piping, 5 in. diam. (72 ft.); 12 lengths ditto, ditto, 3½ in. (72 ft.); two bends and one tee, 5 in. diam.; 60 ft. of wrought-iron piping, 2 in. diam.; 30 ft. ditto, ditto, 1¾ in.; 150 ft. ditto, ditto, 1 in.; 50 ft. ditto, ditto, ¾ in.; four brass taps for 1¾ in. piping; 11 ditto for 1 in. ditto; four for ¾ in. ditto.

May be inspected any day previous to the sale, on obtaining an order from the Auctioneer, at Mr. GEORGE GREEN'S Iron Foundry, Lewis Terrace, Aberystwyth.

The Auctioneer can with confidence call the attention of mining engineers to this sale; the machinery is considered by the highest authorities on mineral dressing machinery, to be superior to anything yet invented—Green's patent.

BY ORDER OF THE MORTGAGEES.

PANDORA LEAD MINING COMPANY
(LIMITED).

VALUABLE LEASES, BUILDINGS, and PLANT of the PANDORA LEAD MINES, near Llanrwst, Carnarvon, comprising ENGINES, WATER WHEELS, CRUSHERS, PUMPING and WINDING GEAR, TRAMWAY, WAGONS, and all necessary MINING IMPLEMENTS.

M. R. HERBERT H. FULLER is instructed TO SELL THIS PROPERTY, BY AUCTION, in One Lot, at the Mart, Tokenhouse-yard, on Thursday, February 15th, at One o'clock precisely.

Particulars and conditions of sale may be obtained from FREDERICK FOSS, Esq., Solicitor, 3, Abchurch-lane, City; and from the Auctioneer, 1, Queen Victoria-street, City.

GOOD OPPORTUNITY FOR REMUNERATIVE ENTERPRISE.

VALUABLE GOLD MINES IN NORTH CAROLINA.

FOR SALE, upon equitable terms, a VERY VALUABLE PROPERTY, situated about twelve miles from Salisbury, in Rowan Co., N.C., adjoining the well-known Gold Hill property, owned and worked by an English Company, which has been worked successfully for years. The same veins from the Gold Hill property run through the property now offered. The veins marked on map are surface veins, the property not being developed. There are gold, silver, and copper veins, besides a manganese vein 75 feet wide on the property, and rather more veins in it than marked on the map. Assays from surface vein \$10 to \$150. There are two-thirds oak timber land; the remainder is cultivated, there being seven farmhouses on the property, with the outbuildings, and there is wheat, corn, and cotton raised. Formerly seven different parties owned this property, same being not developed. The veins marked are all on top. The price for same is £100,000.

There are about 40 companies in the vicinity of the property in a circumference of 15 miles around, and many English companies among them, so this property is well known in English mining circles; it would be a good chance for an English Syndicate, as from 10 to 20 companies could be formed on this property. The same is the centre of the gold belt in North Carolina, and will make the best mining property in the United States.

The property is hilly, lies about 2000 feet above the level of the sea; the summer is not so hot, and the winter very mild, so that they can work at mining all the year round.

Letters addressed "L. G. N." care of MINING JOURNAL Office, 26, Fleet-street, E.C. (where the map referred to can be seen) will be forwarded to the advertiser.

BARROWS AND STEWART, ENGINEERS, BANBURY.

PORTABLE STEAM ENGINES, &c.

The following are high class, and TO BE SOLD very cheap for the quality:—30 h.p. double cylinder new PORTABLE ENGINE, with link-motion reversing gear.

25 h.p. ditto ditto (without) ditto

16 h.p. ditto ditto (with or without) ditto

12 h.p. ditto ditto ditto ditto

10, 8, 7, and 5 h.p. single cylinder PORTABLE or SEMI-PORTABLE ENGINES.

A 6 h.p. combined ENGINE, BOILER, and 6 ft. pan Mortar Mill on wheels.

Also several excellent secondhand PORTABLE STEAM ENGINES.

12 h.p. double cylinder PORTABLE ENGINE, by Burrell and Son.

8 h.p. single cylinder ditto Marshall and Son.

6 h.p. ditto ditto Barrows and Stewart.

6 h.p. ditto ditto Hornby and Son.

A Cornish BOILER, 8 ft. 10 long x 4 ft. 6 diameter.

A ditto 9 ft. 19 long x 3 ft. 2

A CIRCULAR SAW TABLE, 5 ft. x 2 ft. 6, with 30 in. saw.

A BAND SAW MACHINE, 30 in. pulleys.

To be seen at—

BARROWS AND STEWART'S WORKS, BANBURY, OXON.

NOBEL'S DYNAMITE

Alfred Nobel



Manufactured and sold by

NOBEL'S EXPLOSIVES COMPANY, LIMITED
(FORMERLY THE BRITISH DYNAMITE COMPANY LIMITED).

Head Office: 149, West George Street, Glasgow.

EXPORT AGENTS: JAMES THORNE AND CO., 85, GRACECHURCH STREET, LONDON, E.C.

FACTORIES—ARDEER WORKS, STEVENSTON, AYRSHIRE.

WESTQUARTER WORKS, POLMONT STATION, STIRLINGSHIRE.

REDDING MOOR WORKS, POLMONT STATION, STIRLINGSHIRE.

THE COTTON POWDER COMPANY (LIMITED)

RECOMMEND TO CONTRACTORS, MINERS, PIT SINKERS, QUARRYMEN, AND OTHERS, THEIR

TONITE, OR COTTON POWDER,

AS BEING THE SAFEST, CHEAPEST, AND STRONGEST OF ALL EXPLOSIVES.

TONITE is the most efficient and economical blasting agent ever invented, and is largely in demand. It does not contain any Nitro-glycerine, and is, therefore, exempt from the dangers of evaporation, or of freezing and its attendant process of thawing.

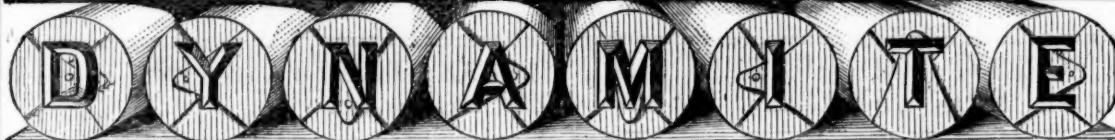
The Company also manufacture PATENT DETONATORS of a quality much superior to the foreign article. The trade supplied on favourable terms.

23, QUEEN ANNE'S GATE, LONDON, S.W.

WORKS: FAVERSHAM, KENT.

Agents: DINEEN and Co., Leeds; DAVID BURNS, Haltwhistle; R. J. CUNNACK, Helston, Cornwall; J. and W. SMITH, Chapel-en-le-Frith; W. VEITCH, Jedburgh, N.B.; W. HARRISON, Barrow-in-Furness; W. J. PARRY, Bangor; HUNTER and FOTHERINGHAM, Glasgow.

RHENISH DYNAMITE COMPANY.



OF THE GREATEST STRENGTH ALLOWED BY THE EXPLOSIVES ACT.

Head Office: JOHN DARLINGTON,
2, Coleman Street Buildings, Moorgate Street, London, E.C.
LONDON AGENT.—E. KRAFTMEIER & CO., 5, GREAT WINCHESTER STREET BUILDINGS, LONDON, E.C.SAMUEL OSBORN AND CO.,
MANUFACTURERS OF TOUGHENED
CRUCIBLE STEEL CASTINGS
Of all descriptions of special strength and solidity.ALSO, MANUFACTURERS OF
BEST CAST STEEL FOR ENGINEERS AND MINERS' PURPOSES; FILES; SAWS; HAMMERS; RAILWAY SPRINGS, &c.

STEEL SHEETS AND FORGINGS.

SOLE MAKERS OF

"R. Mushet's Special Steel," for Lathe and Planing Tools and Drills,
THE STEEL WHICH REQUIRES NO HARDENING.And R. Mushet's Celebrated Extra Best Welding Titanic Cast Steel
for Borers.

ADDRESS:—

CLYDE STEEL AND IRON WORKS, SHEFFIELD.

British and Foreign Safety Fuse Company,

REDRUTH, CORNWALL,

MANUFACTURERS OF

SAFETY FUSE,
FOR MINING AND QUARRYING PURPOSES.

RICES ON APPLICATION

For Excellence
and Practical Success
of Engines.Represented
Model exhibited
this Firm.HARVEY AND CO.,
ENGINEERS AND GENERAL MERCHANTS
HAYLE, CORNWALL.

LONDON OFFICE.—186, GRESHAM HOUSE, E.C.

MANUFACTURERS OF
PUMPING and other LAND ENGINES and MARINE STEAM ENGINES
of the largest and most approved kinds in use, SUGAR MACHINERY,
MILLWORK, MINING MACHINERY, and MACHINERY IN GENERAL.

SHIPBUILDERS IN WOOD AND IRON.

MANUFACTURERS OF

HUSBAND'S PATENT PNEUMATIC STAMPS

SECOND-HAND MINING MACHINERY FOR SALE,

IN GOOD CONDITION, AT MODERATE PRICES—viz.

PUMPING ENGINES; WINDING ENGINES; STAMPING ENGINES,
STEAM CAPSTANS; ORE CRUSHERS; BOILERS and PITWORK of
various sizes and descriptions; and all kinds of MATERIALS required for
MINING PURPOSES.JORDAN'S PATENT
PULVERISING MACHINE,
FOR REDUCING

MINERALS, CHEMICALS, CEMENTS, CEREALS, &c.

T. B. JORDAN AND SON,
52 GRACECHURCH STREET, LONDON.SIMPLE
DURABLE.
EFFECTIVEOTHER
SPECIALITIES.

GOLD

REDUCING PLANT

HAND-POWER

ROCK DRILLS.

GENERAL

MINING PLANT

Illustrated Cata-
logues on applica-
tion.THE
BEST METAL FOR BUSHES,
BEARINGS,
SLIDE VALVES,
And other wearing parts of Machinery.
PUMPS, PLUNGERS,
CYLINDERS, &c.PHOSPHOR BRONZE
WIRE, TUBES,
SHEET, RODS
TOOLS, &c.STEAM
FITTINGS
REGISTERED TRADE MARK
THE
PHOSPHOR BRONZECOMPANY, LIMITED,
SUMNER STREET, SOUTHWARK,
LONDON, S.E.JOHN BEATSON & SON,
40h, St. Mary's Gate, Derby.

IRON AND STEEL RAILS, of all sections, from 10 to 86 lbs. per
yard, new perfect, new slightly defective, or second-hand, with Fish-plates,
Bolts and Nuts, Chairs, Spikes, and Points and Crossings to match, when re-
quired.

STEEL AND IRON WIRE ROPE, LOCOMOTIVE ENGINES, &c., &c.

BARS, PLATES, SHEETS, &c.

STEEL OF ALL KINDS. PIG IRON OF ALL KINDS.

Deliver, at all Railway Stations and Ports in Great Britain.

WILLIAM BENNETTS,
PATENT MINERS'

SAFETY FUSE
MANUFACTURER.This manufacture embraces all the latest improvements for use in
Blasting in Mines, Quarries, or for Submarine Purposes; and is
adapted for exploding Gunpowder, Dynamite, or any other Explos-
ive; and is made suitable for exportation to any part of the world.
Price Lists and Sample Cards on application.All communications to be addressed—
ROSKEAR FUSE WORKS,
CAMBORNE CORNWALL.

SMALL ENOUGH TO CARRY IN THE POCKET ANEROID CASE.

PRACTICAL HYPSEOMETER: A Method of DETERMINING
ALTITUDES (Heights of Mountains and Depths of Mines) accurately and
almost instantaneously, with the Aneroid Barometer, WITHOUT TABLES.

Price One Shilling, post free

London: MINING JOURNAL Office 26, Fleet-street, E.C.

